Notice and Agenda of a Board Workshop

Tuesday, August 14, 2018 at 4:00 p.m.

MEETING LOCATION:	District Administration Building 12770 Second Street, Yucaipa
MEMBERS OF THE BOARD:	Director Chris Mann, Division 1 Director Bruce Granlund, Division 2 Director Jay Bogh, Division 3 Director Lonni Granlund, Division 4 Director Tom Shalhoub, Division 5

I. Call to Order

II. Public Comments At this time, members of the public may address the Board of Directors on matters within its jurisdiction; however, no action or significant discussion may take place on any item not on the meeting agenda.

III. Staff Report

IV. Presentations

A. Overview of the Proposed Monitoring Operations and Reporting Enhancement (MORE) Project [Workshop Memorandum No. 18-199 - Page 5 of 91]

V. Operational Updates

A. Status Report for the Tracer Study Performed on the R-13.1 Clearwell at the Yucaipa Valley Regional Water Filtration Facility [Workshop Memorandum No. 18-200 - Page 14 of 91]

B. Status Report on the Rehabilitation of Belt Press No. 1 and No. 2 [Workshop Memorandum No. 18-201 - Page 35 of 91]

VI. Administrative Items

A. Overview of Resolution No. 2018-xx Updating the Calculation of Facility Capacity Charges Related to the Purchase of Water Resources for New Development within the Boundary of the San Gorgonio Pass Water Agency and the City of Calimesa [Workshop Memorandum No. 18-202 - Page 37 of 91]

B. Discussion Regarding the Preparation of Information to Communicate with Customers, Regulators and Stakeholders [Workshop Memorandum No. 18-203 - Page 47 of 91]

C. Consideration of Classifying Vehicle No. 48 as Surplus Property [Workshop Memorandum No. 18-204 - Page 49 of 91]

Any person who requires accommodation to participate in this meeting should contact the District office at (909) 797-5117, at least 48 hours prior to the meeting to request a disability-related modification or accommodation.

Materials that are provided to the Board of Directors after the meeting packet is compiled and distributed will be made available for public review during normal business hours at the District office located at 12770 Second Street, Yucaipa. Meeting materials are also available on the District's website at www.yvwd.dst.ca.us

D. Overview of Claim for Repair Cost Related to Water Line Repair on Panorama Drive - Bolen [Workshop Memorandum No. 18-205 - Page 50 of 91]

E. Discussion Regarding Maintaining the Existing 457(b) Deferred Compensation Plans with Voya and CalPERS [Workshop Memorandum No. 18-206 - Page 57 of 91]

F. Presentation of the Unaudited Financial Report for the Period Ending on July 31, 2018 [Workshop Memorandum No. 18-207 - Page 58 of 91]

VII. Director Comments

VIII. Announcements

A. August 21, 2018 at 6:00 p.m. - Regular Board Meeting
B. August 28, 2018 at 4:00 p.m. - Board Workshop
C. September 4, 2018 at 6:00 p.m. - Regular Board Meeting
D. September 11, 2018 at 4:00 p.m. - Board Workshop
E. September 18, 2018 at 6:00 p.m. - Regular Board Meeting
F. September 25, 2018 at 4:00 p.m. - Board Workshop
G. October 2, 2018 at 6:00 p.m. - Regular Board Meeting
H. October 9, 2018 at 4:00 p.m. - Board Workshop
I. October 16, 2018 at 6:00 p.m. - Regular Board Meeting
J. October 30, 2018 at 4:00 p.m. - Board Workshop
K. November 6, 2018 at 6:00 p.m. - Regular Board Meeting
L. November 13, 2018 at 4:00 p.m. - Board Workshop
M. November 20, 2018 at 6:00 p.m. - Regular Board Meeting
N. November 27, 2018 at 4:00 p.m. - Board Workshop
O. December 4, 2018 at 6:00 p.m. - Regular Board Meeting
P. December 11, 2018 at 4:00 p.m. - Board Workshop
Q. December 18, 2018 at 6:00 p.m. - Regular Board Meeting
R. ~~December 25, 2018 at 4:00 p.m. - Board Workshop~~ Canceled
S. ~~January 1, 2019 at 6:00 p.m. - Regular Board Meeting~~ Canceled
T. January 8, 2019 at 4:00 p.m. - Board Workshop
U. January 15, 2019 at 6:00 p.m. - Regular Board Meeting
V. January 29, 2019 at 4:00 p.m. - Board Workshop

IX. Closed Session

A. Conference with Real Property Negotiator(s) - Government Code 54956.8
Property: Assessor's Parcel Numbers: 413-380-001 - 009, and 013
Agency Negotiator: Joseph Zoba, General Manager
Negotiating Parties: Johnson
Under Negotiation: Terms of Payment and Price

B. Conference with Legal Counsel--Existing Litigation - Government Code 54956.9(d)
YVWD vs Hillcrest Mobile Home Park
San Bernardino Superior Court Case No. CIVDS 1808441

X. Adjournment

Staff Report

Yucaipa Valley Water District

Presentations

Yucaipa Valley Water District

Yucaipa Valley Water District

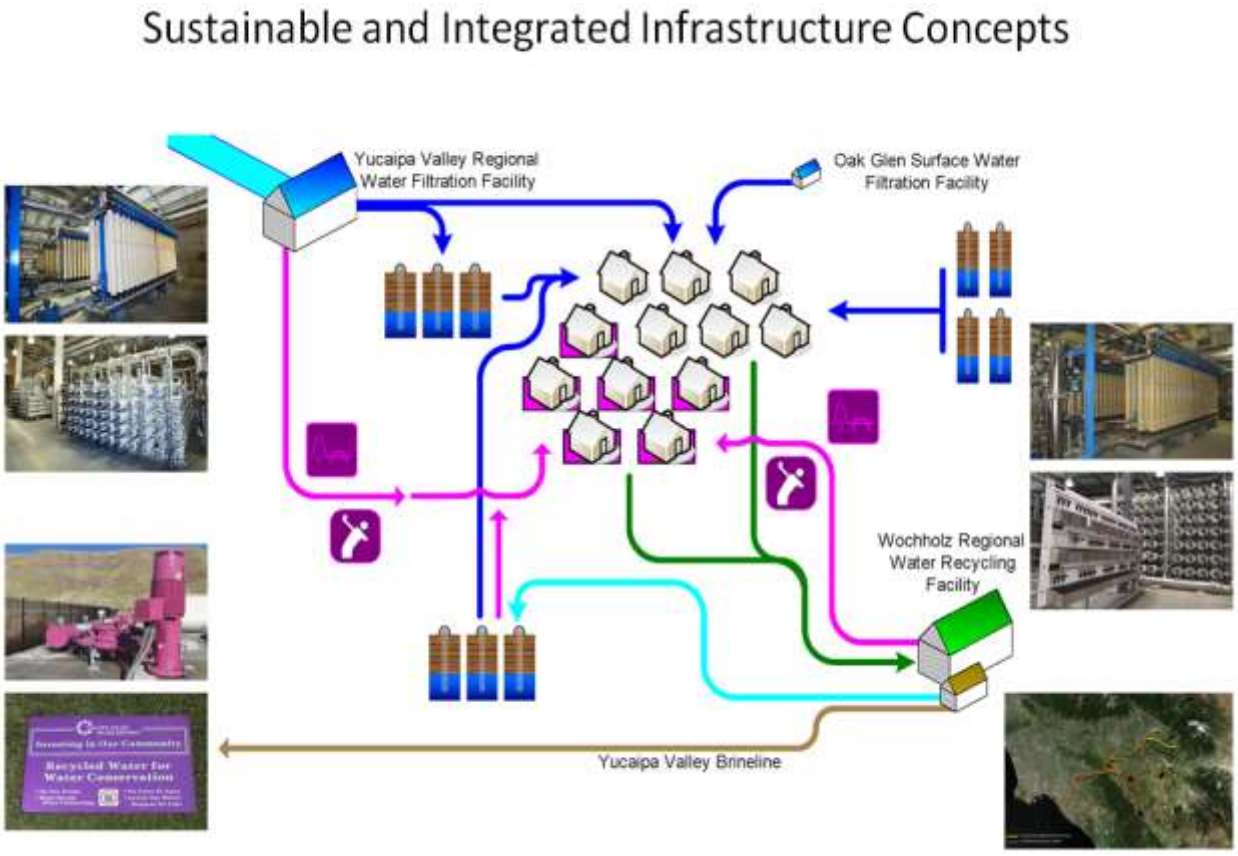
Workshop Memorandum 18-199

Date: August 14, 2018

From: Joseph Zoba, General Manager

Subject: Overview of the Proposed Monitoring Operations and Reporting Enhancement (MORE) Project

Over the past several decades, the Yucaipa Valley Water District has embarked on a series of capital improvement projects that have created fully integrated systems of drinking water, recycled water, sewer treatment, and brine disposal facilities. The integration of these facilities has set the Yucaipa Valley Water District on a course to sustainably maintain exceptionally pure and renewable water resources for future generations.



In preparation for the next decade of projects, the Board of Directors of the Yucaipa Valley Water District has embarked on a strategic planning process that set priorities for future capital improvement projects. These improvements will be structured to provide additional supplies of high quality water for future use within our community and make the District more sustainable and resilient.

Two of the most innovative projects that provides additional system integration is the Indirect Potable Reuse (IPR) Project and the Direct Potable Reuse (DPR) Project. Both of these strategically planned projects are described below:

- **Direct Potable Reuse** - Plan and evaluate the opportunities and constraints related to implementation of direct potable reuse facilities. This strategic goal will involve the Salinity and Groundwater Enhancement (SAGE) project at the Wochholz Regional Water Recycling Facility; the Salinity Concentrate Reduction and Minimization (SCRAM) Project at the Yucaipa Valley Regional Water Filtration Facility; and may include a new water filtration facility at the Wochholz Regional Water Recycling Facility. This strategic priority was established by the Board of Directors on March 8, 2018.

- **Indirect Potable Reuse** - Plan and evaluate the opportunities and constraints related to implementation of indirect potable reuse. This strategic goal will involve the recharge of recycled water at various locations throughout the District's service area which will also involve the development of recharge facilities. This strategic priority was established by the Board of Directors on March 8, 2018.

In anticipation of the proposed regulatory requirements, it is essential to collect data and develop specific workflows that recognize that the Wochholz Regional Water Recycling Facility will be treated as a drinking water treatment plant and will therefore need to maintain the typical monitoring requirements set by the Regional Water Quality Control Board plus the anticipated drinking water monitoring requirements required by the Division of Drinking Water. Instead of waiting for regulations and permits to be developed, the District staff recommends that we begin to develop workplans, collect data, and compile reports that enable us to predict the specific impacts of regulations as they are developed.

The purpose of this agenda item is to review and discuss the attached scope of services for the proposed Monitoring Operations and Reporting Enhancement (MORE) Project.

The Membrane Technology Consultants

Separation Processes, Inc.
3156 Lionshead Ave., Suite 2
Carlsbad, CA 92010
Tel: 760-400-3660
Fax: 760-400-3661
www.spi-engineering.com

August 8, 2018

Mr. Joe Zoba
General Manager
Yucaipa Valley Water District
12220 Second Street
Yucaipa CA 92399

Subject: Monitoring Operations and Reporting Enhancement (MORE) Project.

Dear Mr. Zoba:

Separation Processes, Inc. (SPI) is pleased to submit this Proposal for Engineering Services in support of your efforts. Five specific projects that have been discussed at various times, have been identified to form a single larger project, designated as the MORE Project. The Monitoring Operations and Reporting Enhancement (MORE) Project is being proposed to facilitate regulatory approval of future changes envisioned to your recycled water facility. The total estimated budget amount is $330,436 and is described in this proposal.

Project Approach

The Yucaipa Valley Water District currently operates the Wochholz Regional Water Reclamation Facility (WRWRF) for the production of recycled water. Recycled water is currently produced and permitted under Title 22 recycled water regulations. The facility will eventually produce water for groundwater replenishment under Article 5.1 Groundwater Replenishment - Surface Spreading (commonly known as Indirect Potable Reuse (IPR). In the future, the District envisions that it will become an Indirect Potable Reuse (IPR) facility permitted under Article 5.2 – Groundwater Replenishment – Subsurface Application which requires Advanced Treatment (IPR-AT) and eventually Direct Potable Reuse (DPR) Regulations.

Membrane Filtration (MF) is used to meet the filtration requirements for recycled water. In order to provide recycled water to its customers, and to satisfy the groundwater basin plan objectives, the District was required in install reverse osmosis (RO) to reduce the salinity of its water. The District is one of the few, facilities that operate MF/RO for the production of recycled water. It is also one of the few, if not the only facility in California that currently operates RO on wastewater effluent that is low in total nitrogen, a result of the nitrification/denitrification (NdN) process. NdN effluent has characteristics that are different from many facilities that used lower quality secondary effluent as a supply prior to MF/RO.

Moving to IPR-AT/DPR treatment scenarios will involve changes in how the facility is viewed and operated. In simple terms, recycled water facilities are operated to meet average treatment

requirements with modest reporting requirements. IPR-AT treatment involves additional monitoring and reporting requirements, and DPR regulations have yet to be developed. We can speculate that they will likely follow drinking water standards, but this remains to be seen.

Over the past few years, the District has collected data, for its own internal uses and to support the needs of specific projects. This data includes information on the occurrence and removal of Constituents of Emerging Concern, (pharmaceuticals, healthcare products and other unregulated chemicals) that can be found in typical wastewater effluent. The District has also performed virus testing of RO system, and the information was published in the August 2018 AWWA Journal.

Moving from recycled water to the IPR-AT/DPR framework will require additional effort in a variety of areas. There are additional requirements for monitoring and reporting, in IPR-AT, and the DPR framework has yet to be established. Because of the MF/RO system, Yucaipa is in a unique position to develop information that can affect its own future, as it in effect operates two of the key elements of an IPR-AT facility.

SPI has assisted the District with the oversight of its MF processes since installation in 2007, and the completion of the RO facility in 2013/2015. During that period of time we have observed that the facility produces water of high quality. The facility is very reliable and has consistently demonstrated the ability to meet its treatment objectives under current monitoring requirements.

Because IPR-AT and DPR involve the production of drinking water, implementation proceeds along a methodical path. Because the YVWD currently operates a facility that may satisfy the treatment requirements for an IPR-AT facility under current recycled water regulations, it is suggested that the District perform additional testing in order to demonstrate the reliability of the facility under current operating conditions using "enhanced" IPR guidelines and drinking water treatment standards as a basis for its performance. The rationale for the approach is as follows:

1. We can use the existing process to collect full scale operating data to avoid future piloting work, and demonstrate that an AT process can produce water that is compliant under drinking water monitoring standards.

2. We can familiarize The State Water Resources Control Board – Department of Drinking Water (SWRCB-DDW), with the water quality differences associated with NdN effluent prior to IPR-AT.

3. We can demonstrate that IPR-AT can be operated reliably by your staff is applicable and practical for use by smaller utilities. In essence there are technical, managerial and financial requirements (TMF) embedded into the IPR/DPR regulations that must be satisified.

4. We can use the facility as a full scale test bed for demonstration of issues that may be of technical, perception or public concern to build confidence with the regulatory authorities, public, and within the recycled water community.

This change in direction is necessary in order to enhance the District position within the recycled water community. Within the recycled water community, the engineering water quality issues associated with production of IPR-AT are essentially resolved. Yet, the move to DPR will remain methodical until confidence in the process is further established under new operating, monitoring and reporting criteria are established.

We suggest that the best way to approach this issue is to operate your recycled water treatment process as a drinking water facility, under drinking water compliance and monitoring requirements, and address the technical issues as they arise. This is a philosophical change that the YVWD is uniquely positioned to adopt, as it currently operates its own drinking water and water recycling facilities and has staff that is cross-trained. As a multi-disciplinary water agency that is involved in all aspects of water resource management, adoption of a drinking water compliance approach for its IPR-AT or DPR is something that it is positioned to implement, and is required .

The following tasks have been identified as action items. These items may be considered as self standing projects, within an overall program to improve and enhance the District's position with the SWRCB. There are outside costs involved regarding additional sampling, changes in programming and reports that have not been included. Normally, this work is contracted directly with the local water quality laboratory or with SCADA consultants. Assistance of your staff will be required for equipment installation and other work associated with this effort. A breakdown of the hour and budget estimate has been attached for your reference.

Task 1. Update and Publish Data on CEC's in Water, Wastewater Effluent and RO Effluent (Proposed Budget: $20,434)

Task 2. Update and Publish Data on Virus Removal by RO for a full scale system. (Proposed Budget:$19,440)

Task 3. Establish a parallel water quality monitoring plan for the MF/RO system and generate an annual operating report that is based on current IPR-AT and drinking water compliance standards. (Proposed Budget: $78,008)

Task 4. Initiate a program to establish the virus removal of MF using ultrafiltration and RO membranes over numerous sampling events. Publish the results. (Proposed Budget $118,577 including a $25,000 allowance for virus testing)

Task 5. Initiate a program to perform on-line continuous RO integrity monitoring using conductivity profiling using the statistical methods that will be published. SPI has included a $10,000 allowance for the purchase of hardware. A SCADA consultant would be responsible for the programming of the system. (Proposed Budget: $89,977 including $10,000 for the purchase of the hardware)

The total estimated budget for all tasks is $330,436. A breakdown of the budget and a schedule of activities is attached for your review.

August 8, 2018
Yucaipa Valley Water District
Subject: MORE Project Proposal
Page 4

Tasks 3 to 5 will involve coordination with the SWRCB-DDW in order to proceed, as we need to inform as well as communicate our findings in an official manner.

There are potential secondary benefits associated with this work. Under Section 60320.230 of the California Code of Regulations, an alternative treatment scenario may be proposed. The regulations identify oxidation as a requirement of AT, which includes RO and oxidation, normally in the form of Ultraviolet Advanced Oxidation Process (UV/AOP). Prior testing for NDMA suggests that because of the higher level of pretreatment offered by the NdN wastewater treatment, the (UV/AOP) will only provide process redundancy in terms of compliance. Test results from the City of San Diego using a similar NdN wastewater supply indicated the same. The results of compliance testing over an extended period of time may confirm that this is a predictable characteristic of the NdN process, that deserves consideration as part of the regulatory requirement, which currently does not differentiate between the type of wastewater that is supplied to the AT facility.

If it can be demonstrated, there may be the potential to reduce the treatment requirement from UV/AOP to UV which will require 1/3 to $1/10^{th}$ of the power to meet disinfection requirements. However, the best way to approach the issue of an alternative process is with caution (and compliance data in hand); as the existing framework has substantial additional requirements for projects involving alternative processes that would likely apply.

We believe that Projects 3, 4, and 5 may be eligible for funding from USBR, WateReuse and/or WE&RF Funding. SPI has applied for funding for the Automated Conductivity Profiling Apparatus described in Task 5. Any funding received for the work would be used for the project, although outside funding would require a reassessment of the budget to assure that the conditions associated with the funding were satisfied.

The Yucaipa Valley Water District should be aware that the IPR-AT approval process can be extensive. Although work performed by other agencies (OCWD, West Basin, WRD, One Monterey) has provided the groundwork for other projects, each project is individually permitted.

Separation Processes Capabilities

SPI is a consulting engineering firm specializing in the development and application of membrane processes, such as reverse osmosis, ultrafiltration and microfiltration. Should this proposal result in a notice to proceed, SPI would invoice monthly for actual services provided and expenses incurred. Payment of the invoice within 30 days would be appreciated. We appreciate the opportunity to support the Yucaipa Valley Water District and its efforts to be a provider of water, recycled water and Advanced Treated Water. If you should have any questions, please do not hesitate to contact me. We look forward to working with you on the project.

Sincerely,

James C. Vickers

James C. Vickers, PE
Vice President

Yucaipa Valley Water District - MORE Project
SPI Hour and & Budget Estimate

8/8/2018	SPI							
Hourly rates:	$225	$164	$122	$115		Labor	ODC	TOTAL
Task 1 - CEC Information	PM	PE	ENGR	CAD	TMH			
Prepare Paper for Publication	80			8	88	$ 18,920	$ 1,514	$ 20,434
TOTALS								**$ 20,434**
Task 2 - Virus Removal Study								
Prepare Paper for Publication	80				80	$ 18,000	$ 1,440	$ 19,440
TOTALS								**$ 19,440**
Task 3 - Enhanced Operational Report (1 year)								
Review Existing Information	16			8	24	$ 4,520	$ 362	$ 4,882
Develop Sampling Plan	12	40	40		92	$ 14,140	$ 1,131	$ 15,271
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Modify and Develop New Reports	24	24			48	$ 9,336	$ 747	$ 10,083
Specify and Install Additional Equipment	8				8	$ 1,800	$ 144	$ 1,944
Perform Sampling	12				12	$ 2,700	$ 216	$ 2,916
Data Analysis	18		80		98	$ 13,810	$ 1,105	$ 14,915
Draft Report Preparation	12		80		92	$ 12,460	$ 997	$ 13,457
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Final Report Preparation	16	16		16	48	$ 8,064	$ 645	$ 8,709
TOTALS	**142**	**80**	**200**	**24**	**446**	**$ 72,230**	**$ 5,778**	**$ 78,008**
Task 4 - MF/RO Virus Sampling (4 events)								
Develop Sampling Plan	12	40	40		92	$ 14,140	$ 1,131	$ 15,271
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Prepare for Testing (4)	8	24			32	$ 5,736	$ 459	$ 6,195
Perform Testing (4)	40	80			120	$ 22,120	$ 25,000	$ 47,120
Data Analysis	16	16	40		72	$ 11,104	$ 888	$ 11,992
Draft Report Preparation	24	40	80		144	$ 21,720	$ 1,738	$ 23,458
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Final Report Preparation	16	16		16	48	$ 8,064	$ 645	$ 8,709
TOTALS	**140**	**216**	**160**	**16**	**532**	**$ 88,284**	**$ 30,293**	**$118,577**
Task 5 - Automated Conductivity Sampling (1 year)								
Review Existing Information	8				8	$ 1,800	$ 144	$ 1,944
Develop Sampling Plan	12	24	40		76	$ 11,516	$ 921	$ 12,437
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Purchase and Install Additional Equipment	16	16			32	$ 6,224	$ 10,498	$ 16,722
Perform Sampling (1 year)	24	48			72	$ 13,272	$ 1,062	$ 14,334
Data Analysis	12		80		92	$ 12,460	$ 997	$ 13,457
Draft Report Preparation	12	40	80		132	$ 19,020	$ 1,522	$ 20,542
Review with DDW	12				12	$ 2,700	$ 216	$ 2,916
Final Report Preparation	16	16		16	48	$ 8,064	$ 645	$ 8,709
TOTALS	**124**	**144**	**200**	**16**	**484**	**$ 77,756**	**$ 16,221**	**$ 93,977**
TOTAL of TASKS IDENTIFIED						**$275,190**	**$ 55,246**	**$330,436**

Notes:
1. Routine Outside Water Quality Analysis for compliance not included.
2. Virus sampling includes RO and UF membrane systems.
3. Modifications to PLC/HMI not included but coordinated with SCADA Integrator.

Yucaipa Valley Water District - MORE Project
Timeline of Activities

	Month/Year																	
Month	9/18	10/18	11/18	12/18	1/19	2/19	3/19	4/19	5/19	6/19	7/19	8/19	9/19	10/19	11/19	12/19	1/20	2/20	3/20
Task 1 - CEC Information																			
Organize	■	■	■	■															
Prepare Paper for Publication					■	■	■												
Submit and Respond								■	■	■									
Task 2 - Virus Removal Study																			
Prepare Paper for Publication	■	■	■																
Submit and Respond				■	■	■													
Task 3 - Enhanced Operational Report (1 year)																			
Review Existing Information	■																		
Develop Sampling Plan	■		■																
Review with DDW		■																	
Modify and Develop New Reports			■	■															
Specify and Install Additional Equipment	■	■	■	■															
Perform Sampling					■	■	■	■	■	■	■	■	■	■	■	■			
Data Analysis					■	■	■	■	■	■	■	■	■	■	■	■	■		
Draft Report Preparation														■	■	■	■	■	
Review with DDW																		■	
Final Report Preparation																			■
Task 4 - MF/RO Virus Sampling (4 events)																			
Develop Sampling Plan	■		■																
Review with DDW		■																	
Prepare for Testing (4)				■			■			■			■						
Perform Testing (4)					■			■			■			■					
Data Analysis						■			■			■			■				
Draft Report Preparation						■	■	■	■	■	■	■	■	■	■	■	■		
Review with DDW																		■	
Final Report Preparation																			■
Task 5 - Automated Conductivity Sampling (1 year)																			
Review Existing Information	■																		
Develop Sampling Plan	■		■																
Review with DDW		■																	
Purchase and Install Additional Equipment	■		■	■															
Perform Sampling (1 year)					■	■	■	■	■	■	■	■	■	■	■	■			
Data Analysis					■	■	■	■	■	■	■	■	■	■	■	■	■		
Draft Report Preparation														■	■	■	■	■	
Review with DDW																		■	
Final Report Preparation																			■

Operational Updates

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 18-200

Date: August 14, 2018

Prepared By: Mike Kostelecky, Operations Manager

Subject: Final Report for the Tracer Study Performed on the R-13.1 Clearwell at the Yucaipa Valley Regional Water Filtration Facility

The Surface Water Treatment Rule requires a minimum combination of disinfectant dose and contact time to provide inactivation of potential pathogens in drinking water supplies.

The Yucaipa Valley Regional Water Filtration Facility utilizes a six million-gallon clearwell to achieve contact time compliance with the Surface Water Rule Requirements. The clearwell consists of five baffles and has been operating under an industry standard baffling factor.

During the District's 2017 Sanitary Survey, the State Water Resource Control Board, Division of Drinking Water suggested confirmation of the contact time related to the filtration facility to validate the compliance with California Regulations Related to Drinking Water, published September 23, 2016, page 217, which states:

§64651.32. Disinfectant Contact Time. *"Disinfectant contact time" means the time in minutes that it takes for water to move from the point of disinfectant application or a previous point of disinfectant residual measurement to a point before or at the point where residual disinfectant concentration is measured. Disinfectant contact time in pipelines is calculated by dividing the internal volume of the pipe by the flow rate through the pipe. Disinfectant contact time within mixing basins and storage reservoirs is determined by tracer studies or an equivalent demonstration to the State Board.*

On August 15, 2017, the Board of Directors authorized a tracer study to be performed at the Yucaipa Valley Water Filtration Facility R-13.1 clearwell by HDR, Incorporated for a sum not to exceed $37,726 [Director Memorandum No. 17-068]. Maintaining a consistent water level in the clearwell is necessary to maximize accuracy and the original proposed 6 feet water level would not be possible at such high flows. Because of the water level change, additional time was needed resulting in additional sampling. See below for an explanation of the $4,000 increase received from HDR on June 1, 2018.

The original HDR fee estimate (see attached) for the tracer test was based on the minimum operating level in the finished water storage reservoir of 6 feet. Based on a discussion with District staff, the operating level of the reservoir increased to 10 feet. This nearly doubles the test duration and the number of samples, and therefore, requires additional effort to perform the testing. After evaluating the work done to date and remaining budget available, HDR estimated that they can perform this work with an additional $4,000.

The study for effluent high flows, 11.5 million gallons per day, was started on Thursday, June 7, 2018 and the study for effluent low flows, 6 million gallons per day, was performed on Monday, June 18, 2018.

The Division of Drinking Water staff members Andres Aguirre, Amanda

Chapman, and Mario Ramirez were on site to overview the tracer protocol and ask any questions.

The study verifies the District exceeds the necessary contact time in the clearwell. The full report is attached and has been submitted to the State Water Resources Control Board Division of Drinking Water for review, comments, and approval.

HDR

August 2nd, 2018

Tracer Study Summary and Results for the Yucaipa Valley Regional Water Filtration Facility

Executive Summary

This technical memorandum (TM) presents the results of a tracer study conducted for the Yucaipa Valley Water District (District) for submittal to the State Water Resources California Division of Drinking Water (DDW). The tracer study was conducted at the Yucaipa Valley Regional Water Filtration Facility (YVRWFF).

The objective of the tracer study was to determine the disinfection contact time (T_{10} time) for the YVRWFF disinfection system operating near its design capacity of 12 MGD and at a lower flow (6 MGD), at the normal low operating levels in the finished water storage reservoir (clearwell). The T_{10} time is the time required for the injected tracer to reach a concentration (at the outlet) that is 10 percent of the steady-state (approximately maximum) concentration that will be reached during the tracer test. The T_{10} time is reported as the T_{10} to hydraulic detention time (HDT) ratio, or baffling factor, where the T_{10} time is divided by the contactor segment's HDT. The HDT is the time given by the contactor or disinfection system volume divided by flow rate. The T_{10} to HDT ratio may be used to determine the time, T (T_{10}), to calculate the disinfection CT credit for the WTP during periods when the WTP is operated at flow rates as high as 12 MGD.

The portion of the disinfection system that was tested consists of a 6 MG baffled, prestressed concrete clearwell, as well as a 48-inch diameter pipe that runs from the point of disinfection injection (where the tracer was injected) to the reservoir tank.

The results of the tracer study are summarized in Table 1.

Table 1 – Summary of Tracer Study Results

Segment	Flow rate (MGD)	Lowest T_{10}:T
Finished Water Storage Reservoir	11	0.43*
Finished Water Storage Reservoir	6	0.49

*Corrected for flow and tank level variations only

Background

The Yucaipa Valley Water District (YVWD) serves drinking water to 60,000 customers in the cities of Yucaipa, Calimesa, and unincorporated portions of Riverside and San Bernardino counties and is located about 70 miles east of downtown Los Angeles. YVWD has traditionally relied upon groundwater from the Yucaipa basin to serve the needs of its customers, however the basin was being over-drafted and the District required a supplemental source. To meet this need, the District constructed the Yucaipa Valley Regional Water Filtration Facility (YVRWFF) to provide an initial capacity of 12 mgd (36 mgd ultimate) of high quality drinking water to their customers. The YVRWFF receives treated water from the San Bernardino Valley Municipal Water District or the San Gorgonio Pass Water Agency. The raw water can be either State Project water, Santa Ana River water, Mill Creek water, or any combination of the three. The Raw Water is delivered through the East Branch Extension of the State Water Project or through the Yucaipa Pipeline. Water is treated through the YVRWFF utilizing microfiltration (MF) membranes followed by nanofiltration (NF) membranes for organics removal. Primary disinfection is provided with sodium hypochlorite fed after the NF process. Treated water is stored in a baffled prestressed concrete clearwell prior to flowing to the distribution system.

Description of the YVRWFF

The YVRWFF was completed in 2007 with an initial capacity of 12 mgd. The plant is designed to be expanded to up to 36 mgd capacity. The YVRWFF includes the following components:

- Automatic strainers
- Raw water supply equalization feed tank (Free Surface Structure)
- Basket strainers
- Pall microfiltration membranes
- Nanofiltration membranes
- Filtrate blending structure
- 48-inch diameter treated water pipeline to clearwell
- Sodium hypochlorite, caustic, and corrosion inhibitor storage and feed systems
- 6 MG baffled clearwell

The water flows by gravity from the Free Surface Structure through the MF membranes. Pumps are used to feed the NF membranes. A flow schematic for the treatment system is shown in Figure 1. Design criteria for the existing plant and the expanded plant are summarized in Table 2.

August 2nd, 2018

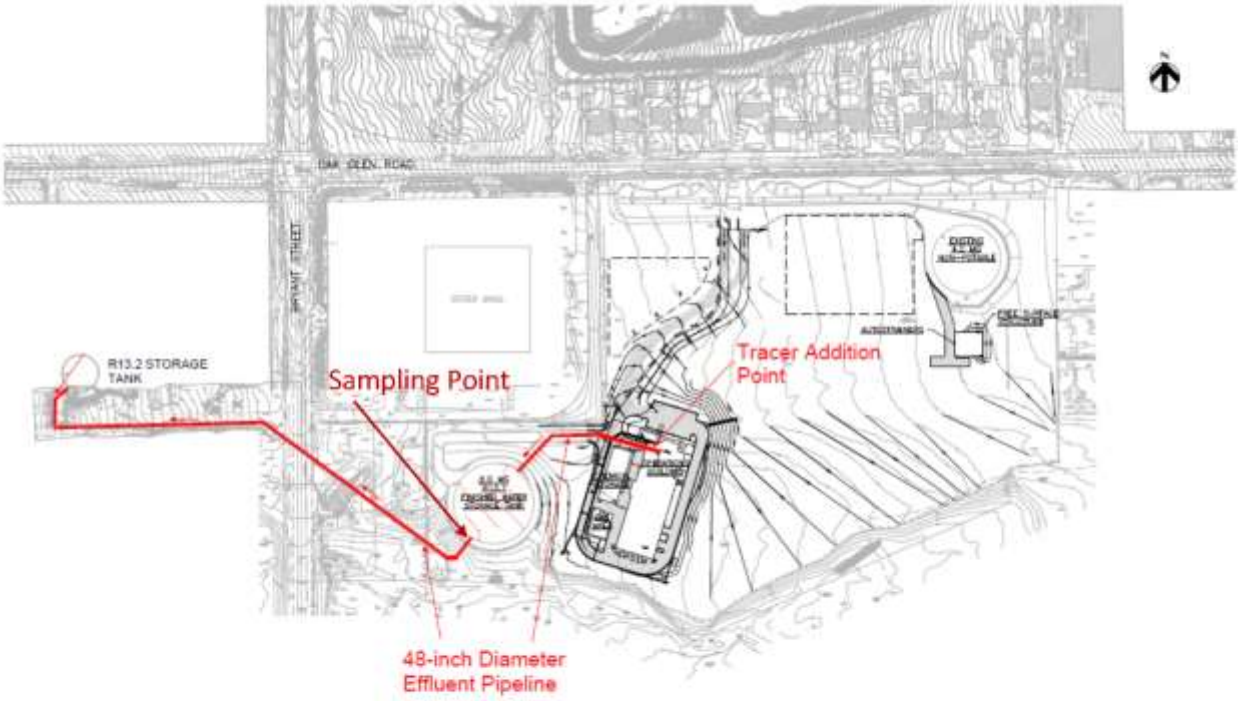


FIGURE 1 - FLOW SCHEMATIC

10029963 3

Table 2 - YVRWFF Design Criteria

Item	Units	Value
Plant Design Capacity	MGD	12
Influent Flow Control		
Auto strainers:		
Number	EA	2
Nominal capacity each	gpm	15000
Slot size	mm	0.5
Inlet pipe connection size	inches	24
Nominal pressure drop	psi	2
Free Surface Structure:		
Top of structure	ft AMSL	2880
Maximum weir elevation	ft AMSL	2876
Minimum weir elevation	ft AMSL	2870
Weir length	ft	24
Bottom elevation	ft AMSL	2854
Overflow weir length	ft	24
Raw Water Inlet Pipeline		
Design flow (peak)	mgd	14.1
Diameter	inches	48
Length	ft	1200
Membrane Filtration System		
MF System		
Membrane type		Pall pressure
Influent feed required	mgd	14.1
Minimum required feed pressure	psi	25
No. of Units (skids)	EA	6
Modules per unit	EA	91
Membrane flux	gfd	55
Recovery	%	96.6
MF system capacity	mgd	13.6
Cleaning Frequencies:		
Backwash (air and water)	#/day	64
Enhanced Flux Maintenance	#/day	2
Clean in place	#/month	1
Support Facilities:		
CIP Caustic EFM Recirc Pump		
Number	duty/standby	1/1
Capacity	gpm/TDH (ft)/hp	380/70/10
Excess Feed Pump		
Number	duty/standby	1/1
Capacity	gpm/TDH (ft)/hp	1500/80/50

Item	Units	Value
Reverse Flush Pump		
Number	duty/standby	1/1
Capacity	gpm/TDH (ft)/hp	1500/80/50
Air compressor (process)	duty/standby	1/1
	scfm/ psig/hp	380/30/75
Air compressor (control)	duty/standby	1/1
	scfm/ psig/hp	55/125/15
Filtrate Blending Structure:		
Size	LxWxD (ft)	25x25x25
Top elevation	ft AMSL	2808
Base elevation	ft AMSL	2783
NF System		
Design Capacity	mgd	1.8-9.0
Recovery	percent	85
Number of trains	EA	3
Number of vessels per train	first stage/second	42/18
Flux	max/min, gfd	18/10
Support Facilities:		
Cartridge Filters		
Number		3
Capacity, each	gpm	2760
NF Feed Pumps		
Number	duty	3
Capacity	gpm/TDH (ft)/hp	2760/345/350
Interstage Booster Pump		
Number	duty	3
Capacity	gpm/TDH (ft)/hp	1150/115/50
Chemical Systems		
Sodium Hypochlorite		
Uses		disinfection, membrane cleaning
Dosage range	mg/L	1.0 - 4.0, 500
Storage System Type		FRP tank
Number		2
Capacity, each	gal	6000
Metering pump type		peristaltic or progressive cavity
Number (disinfection)	duty/standby	1/1
Capacity, each (disinfection)	gph	16
Number (CIP/EFM)	duty/standby	1/1
Capacity, each (CIP/EFM)	gph	30
Sodium Hydroxide		

Item	Units	Value
Uses		product water pH adjustment, various CIP uses
Dosage range	mg/L	8-16
Storage System Type		FRP tank
Number		1
Capacity, each	gal	7000
Metering pump type		peristaltic or progressive cavity
Number (pH adjustment)	duty/standby	1/1
Capacity, each (pH adjustment)	gph	20
Number (CIP/EFM)	duty/standby	4/4
Capacity, each (CIP/EFM)	gph (range)	1.5 -150
Threshold Inhibitor		
Uses		NF feed conditioning
Dosage range	mg/L	3
Storage System Type		HDPE
Number		1
Capacity, each	gal	2500
Metering pump type		diaphragm or peristaltic
Number	duty/standby	1/1
Capacity, each	gph	2
Corrosion Inhibitor (polyphosphate)		
Uses		corrosion control (temporary)
Dosage range	mg/L	0.6-3.0
Storage System Type		totes
Number		1+2
Capacity, each	gal	275+150
Metering pump type		peristaltic or progressive cavity
Number	duty/standby	1/1
Capacity, each	gph	1.2
Ammonia (future space allocation only)		
Treated Water Pipeline		
Diameter	inches	48
Length from Chlorine addition to clearwell	ft	429
Finished Water Storage Reservoir (Clearwell)		
Type		pre-stressed concrete
Number		1
Total tank volume	MG	6.0
Inside Diameter	ft	206.5
Side water depth (normal max)	ft	24.5
Overflow elevation	ft AMSL	2773.22

Item	Units	Value
Number of baffles	ea	4
Baffling length to width ratio	L/W	21

Regulatory Considerations

The Surface Water Treatment Rule (SWTR) requires a minimum combination of disinfectant dose and contact time to provide inactivation of potential pathogens. The combination of these two variables is expressed as CT, where C is the disinfectant or tracer concentration (in milligrams per liter (mg/L) and T is the contact time (in minutes based on T_{10}).

T_{10} – The detention time in which 10 percent of a tracer would pass through the unit process, min.

T – The theoretical retention time, min.

C_0 – The tracer concentration injected at the feed pump, mg/l.

C – The downstream measured tracer concentration minus the established baseline concentration, mg/l.

The ratio of T_{10} to the theoretical detention time (T) of the clearwell is a function of the hydraulic characteristics of the chamber, and is commonly known as the baffling factor.

Tracer Protocol

The approved protocol outlined the proposed testing procedures for conducting a tracer study for the finished water storage reservoir at the Yucaipa Valley Regional Water Filtration Facility. The tracer study protocol was developed based on information outlined in the 1999 EPA *Disinfection Profiling and Benchmarking Guidance Manual.* The objective of this memorandum is to describe the method in which the T_{10} / T value was measured. The tracer study consisted of two individual tests conducted at two different flow rates (high flow and low flow). Information obtained from these tracer studies will be used as a basis for recommending an appropriate T_{10} /T ratio for the clearwell. See Appendix A for a copy of the approved tracer study protocol. The following modifications to the protocol occurred during the actual testing:

- The high flow was lower than what was stated in the protocol. The actual test was run at an average of 11 MGD instead of 11.5 MGD. The 11 MGD flow is greater than 91 percent of the 12 MGD design flow and therefore, the results can be applied to up to a 12 MGD flow.

- The levels in the clearwell were higher than anticipated. The actual water depths tested were 11 feet (11 MGD flow) and 10.5 feet (6 MGD flow). These correspond to a reservoir volume of 2.8 and 2.7 MG (instead of 1.5 MG).
- The sampling point was modified from the location at the end of the 48-inch diameter effluent pipe, to directly above the effluent pipe leaving the tank. (A submersible pump was lowered from the hatch directly above the outlet pipe in the reservoir.)

Testing Objectives

1. Conducted tracer tests at two different flow rates (a total of two individual tracer tests were performed).
2. Determined the T_{10}/T ratios of each tracer test for the 6 MG clearwell.
3. Recommend an appropriate T_{10}/T ratio for the clearwell based on the individual test results.

Tracer Selection

Three tracers were considered for this study:

- Fluoride (Hydrofluorosilicic acid)
- Calcium Chloride
- Sodium Chloride

The tracer selected for used in this study was Fluoride (Hydrofluorosilicic acid). This chemical tracer was in compliance with NSF/ANSI 60: Drinking Water Treatment Chemicals. The SDS for the tracer chemical is presented in Appendix B.

Fluoride Use and Dialysis

California currently regulates fluoride at a concentration of 2 mg/L in drinking water. Dialysis patients can be exposed to 25-50 times more water than what would typically be consumed in a week, and therefor need to use highly purified water in their dialysis treatments. Large dialysis systems in clinics, as well as smaller systems for home use, are carefully designed to remove the majority of fluoride and other chemical constituents. The FDA regulates water purification systems for dialysis as Class II medical devices (FDA, 2011). The Association for the Advancement of Medical Instrumentation (AAMI) has published standards as well as recommendations for quality management of dialysis systems, focusing primarily on the quality of the water used. Dialysis facilities and associated personnel are required by the Centers for Medicare and Medicaid Services (CMS) to meet

the Conditions for Coverage that outlines various requirements to ensure the safety of the treatment (Coulliette & Arduino, 2013).

As of 2014, home dialysis treatment accounts for roughly 16% of all dialysis patients. Options for home dialysis systems include pre-packaged dialysate that is commercially produced, external water filtration systems attached to dialysis units, or on-line dialysis systems. Water treated in home systems must use tap water that meets all EPA drinking water standards. Persons using dialysis equipment at home are trained on proper operation and maintenance, and are further given instructions on routine testing of the treated water to ensure the system is working correctly (Kam & Chan, 2017).

Examples of treatment technologies that can be included in dialysis systems include: sediment filtration, water softeners, ion exchange resins, carbon adsorption, UV, ultrafiltration, and reverse osmosis (Layman-Amato et al., 2013). There is currently a dialysis center located in Yucaipa (DaVita Yucaipa Dialysis Center) that uses reverse osmosis to produce sufficiently pure water for their dialysis equipment. It is anticipated that the Dialysis Center in addition to any home dialysis systems will sufficiently remove fluoride over the duration of the tracer studies.

Dosage Method

The step-feed method was selected for the study. The tracer was pumped into the finished water storage reservoir at a point just upstream of the inlet (where disinfection is added). The tracer concentration was approximately 0.8 mg/l, to obtain a concentration of approximately 0.9 mg/l at the reservoir outlet, based on a background fluoride concentration of approximately 0.1 mg/l. The fluoride concentration was continuously monitored by ion selective electrodes by personnel stationed at the outlet of the reservoir. Field testing was conducted over the entire duration of both tests to ensure that fluoride levels did not exceed the MCL of 2.0 mg/l. To verify the test results, sampling was continued after the tracer addition stopped to plot the receding curve and compare results to the ascending curve test.

Dosage Calculation

Table 3 summarizes the required hydrofluorosilicic acid dosage calculation for the study.

Table 3 - Dosage Summary for Fluoride Addition

Parameter	Value	Units
Background Fluoride Conc. (estimated)	0.1	mg/L
Target Fluoride Conc.	1.1	mg/L
Hydrofluorosilicic Acid (HFA):		
Specific Gravity	1.22	g/mL
Concentration by Weight	23	%
Available HFA	2.34	lb/gal
Tracer Dose, C_0	1.0	mg/L
HFA Feed Rate (11.5 mgd)	41.0	gpd
	1.71	gph
HFA Feed Rate (6 mgd)	21.4	gpd
	0.89	gph
Total HFA needed (2 tests)	55	Gal

Flow, Duration, and Tank Levels

Ideally, tracer tests should be performed for at least four flow rates that span the entire range of unit process flows, with one near average flow, two greater than average, and one less than average (EPA, 1999). However, due to the number of samples required for the long detention times involved, four tests would be cost prohibitive. The EPA Guidance Manual allows for a single test at a flow rate of not less than 91 percent of the peak flow rate. This can be used to determine a conservative CT value for that unit process for all flow rates less than or equal to the tracer study flow rate (EPA, 1999).

Two flow rates were used for the tracer study, one at between 91and 100 percent of design flow, and one at average flow. The maximum design plant flow is currently 12 MGD, so the high flow test was conducted at 11 MGD. Average flow during the winter is 6 MGD and this flow rate was used for the second test. The plant flow was maintained at a constant rate during the duration of each test.

Tank Volume

As the tank or reservoir level varies, so will the detention time. If the test is performed with a higher than average volume, the results will indicate a higher detention time, and likewise, if the test is conducted at a very low level the detention time will be artificially low. EPA Guidance Manual recommends performing the test at, or slightly below, the normal

minimum operating level. The minimum operating level at which the tests were performed are shown in Table 4.

Table 4 – Clearwell Operating Level

Parameter	Units	Value
Diameter	FT	206.5
Normal Minimum Operating Volume	GAL	2,700,000
Normal Minimum Operating Depth	FT	10.5

Sampling Details

The tracer study is designed to determine the baffling factor for the clearwell. For systems where it is not practical to test the unit processes individually, the EPA Guidance Manual allows for one tracer study to be used to determine the T_{10} values for all the unit process at one flow rate.

The tracer dosing pump and tracer chemical container were located at the point of hypochlorite injection, upstream of the clearwell. The tracer was introduced at a constant feed rate with a chemical metering pump through temporary ¾-inch tubing.

Prior to starting the hydrofluorosilicic acid feed pump, samples were taken to determine the background fluoride levels (~0.1 mg/L).

The EPA Guidance Manual recommends a sampling interval of 2 to 5 minutes for a well defined plot of tracer concentration vs. time for short duration tests. For systems with very long detention times (over 4 hours), the EPA Manual allows samples to be collected every 10 minutes for the first 30 minutes, or until a tracer concentration above baseline level is first detected.

Given that the theoretical detention time for the clearwell is well above 65 minutes, the following sampling intervals were used:

- Initial sampling Interval (until tracer was detected) – 10 min
- Main sampling Interval (after tracer was detected) – 5 min

Samples were collected via a submersible pump from the point of outflow from the reservoir.

Testing Equipment

The following is a detailed description of the equipment that was used during the tracer tests.

1. **Tracer** –A 23% by weight, NSF 60 certified hydrofluorosilicic acid solution was used from a 30 gallon drum.

2. **Tracer Dosing Pump and Tubing** - The tracer dosing pump consisted of a 68 gpd, 110V electronic, manually controlled, and variable speed diaphragm pump for consistent, accurate tracer dosing. A calibration column was located on the pump discharge piping to verify the feed rate. Polypropylene tubing was used for the suction and discharge piping. Polypropylene fittings were used where required to connect to existing piping.

3. **Fluoride Ion Selective Electrode (ISE)** - A Hach handheld unit equipped with a fluoride ion selective electrode (ISEF12101) was used for fluoride measurements taken in the field and in the laboratory. This unit has a range of 0.01 to 19,000 mg/l as fluoride.

Data Collection

The tracer tests were conducted on the following dates:

11 MGD flow was performed on June 7th, 2018, with a start time of 9:50 am.

6 MGD flow was performed on June 18th, 2018, with a start time of 11:22 am.

HDR personnel on-site during the tests were: Gwen Woods-Chabane and Kristin McCann.

YVWD staff on-site during the tests included: Mike Kostelecky and Tim Mackamul.

Fluoride data were recorded manually at the required sample intervals. Personnel conducting the tracer test manually recorded the time when the tracer feed pump was started up and stopped. This data is presented in Appendix C.

Quality Control Procedures

The following procedures were implemented prior to and during the tracer test:

1) Recorded the following information for each tracer test at regular intervals:

   a) Plant Flow

   b) Tracer feed flow rate

   c) Clearwell and clearwell water levels

   d) Tracer feed pump start and stop times

   e) Sample time

   f) Noted any unusual operating conditions

2) The fluoride probe was calibrated prior to each test with 3 calibration standards in accordance with the manufacturer's recommendations. Check standards were run every half-hour and recalibration was conducted at least every hour (to accommodate temperature changes) throughout the duration of both tracer tests.

3) Prior to the test and at 1-hour intervals, the feed pump flow rate was measured manually. This measurement will be made to confirm the accuracy of the dose.

4) In the laboratory the fluoride probe was likewise calibrated with calibration standards per manufacturer's instructions. Quality control measures included: analysis of field blanks, laboratory blanks, duplicates (collected hourly in the field), matrix spikes, check standards (run every 15 minutes). When check standards deviated by more than 0.01 mg/l, the probe was recalibrated. Quality control data is provided in Appendix D.

Test Results

The T_{10} is calculated as the time required for the tracer to reach a concentration, at a given location, that is 10 percent of the steady-state concentration (C_0) that is reached during the study (when $C/C_0 = 0.10$). Confirmation of the T_{10} was confirmed by examining the receding curve, after the tracer feed pump was turned off. The receding T_{10} was estimated by fitting a trend line at the point where 10% of the chemical has receded, or when $C/C_0 = 0.9$. See Figures 2 through 5 for plotted results for the ascending and descending cures for the finished water storage reservoir at 11 and 6 MGD. The Excel files with the data for the curves are presented in Appendix C.

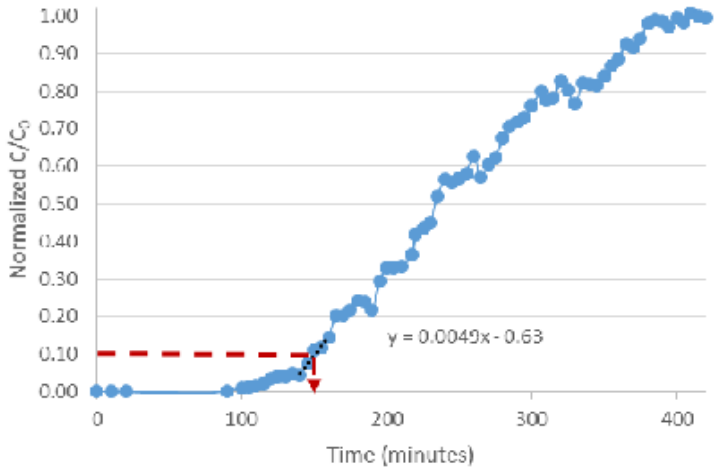


Figure 2. Ascending curve for the clearwell at 11 MGD

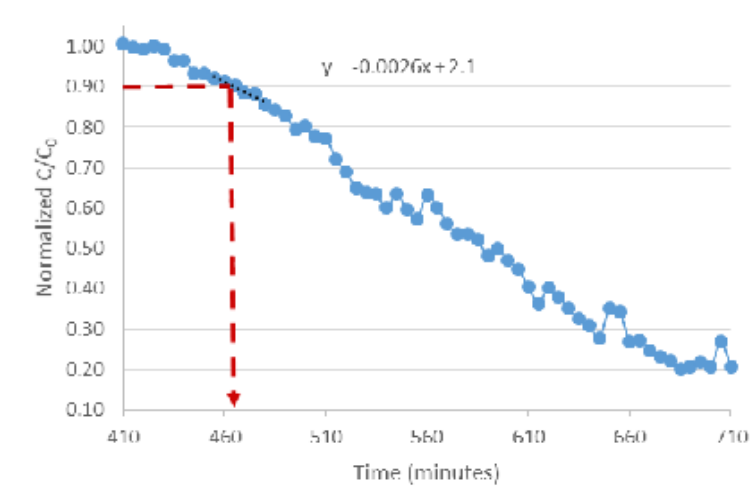


Figure 3. Receding curve for the clearwell at 11 MGD

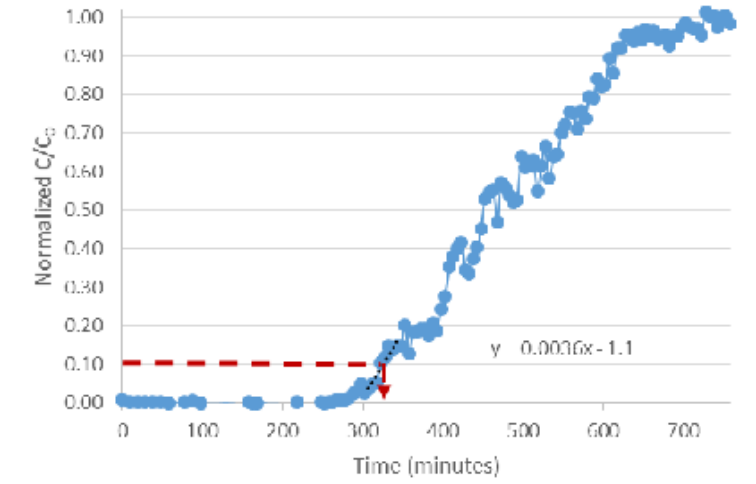


Figure 4. Ascending curve for the clearwell at 6 MGD

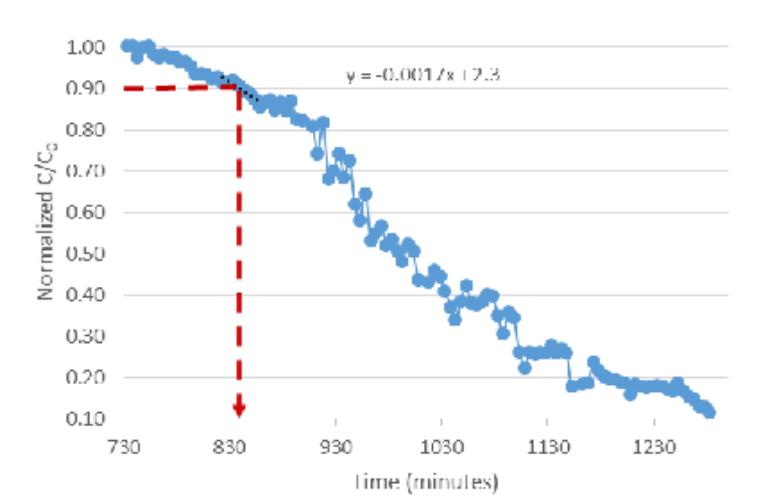


Figure 5. Receding curve for the clearwell at 6 MGD

A summary of the calculated baffling factors using the ascending and receding curves for both segments at the two flow rates used are presented in Table 5:

Table 5. Tracer study results for the finished water storage reservoir at 11 and 6 MGD

Test	Flow rate (MGD)	Ascending Curve			Receding Curve		
		T (min)	T_{10} (min)	T_{10}/T ratio	T (min)	T_{10} (min)	T_{10}/T ratio
Finished Water Reservoir	11	373	150	0.40	373	245	0.66
Finished Water Reservoir	6	666	325	0.49	666	396	0.59

There is a notable discrepancy between trials as well as between the ascending and receding curves. In examining the 11 MGD trial more closely, the flow and reservoir height data (Appendix E) illustrate that conditions were not held at as consistent a rate, as they were in the 6 MGD trial. If the data is reexamined for the theoretical retention times based upon when T_{10} occurred (both on the ascending and receding) for the 11 MGD trial, the retention times and subsequent T_{10}/T ratios are adjusted to a value more similar to the 6 MGD trial. [In other words, rather than taking the average flow and height data across, the whole trial, these theoretical retention time (T) values are derived from the 30 minute intervals that bracket when T_{10} occurred (or when 10% of the chemical has increased or decreased).]:

Table 6. Tracer study results with retention time numbers calculated from 30 minute intervals

Test	Flow rate (MGD)	Ascending Curve			Receding Curve		
		T (min)	T_{10} (min)	T_{10}/T ratio	T (min)	T_{10} (min)	T_{10}/T ratio
Finished Water Reservoir	11	349	150	0.43	418	245	0.59
Finished Water Reservoir	6	665	325	0.49	676	396	0.59

The T_{10}/T ascending ratio is still lower for the 11 MGD data than for the 6 MGD data. This can be explained by further examination of the first 30 minutes of flow for the 11 MGD trial (Appendix E). The flow was lower over the first 30 minutes, which would result in elevated fluoride concentrations over that period (with constant flow from the fluoride feed pump). An elevated concentration would result in the T_{10} value occurring earlier than it would if the flow had started at the same level as the rest of the trial. Using the flow data to calculate the concentration over the first 30 minutes, the fluoride level was 17.5% higher than over the next few hours. Applying a correction factor of 17.5% (lower) to the early data in the ascending profile (Figure 4) results in a new T_{10} value of 160 minutes (vs. 150 minutes). This higher T_{10} value translates into a T_{10}/T value of 0.46 instead of 0.43 (Table 6).

Although these are relatively simple calculations that estimate how flow conditions altered the T_{10} values, they do illustrate that the 11 MGD data can be adjusted (according to flow and height conditions) to values very close to the 6 MGD trial (i.e., the 11 MGD data supports the 6 MGD data). To be conservative, we recommend only correcting for the actual T that bracket when T_{10} occurred and not the concentration effect.

Summary and Recommendation

The objective of the YVRWFF tracer study was to determine the disinfection contact time (T_{10} time) and the T_{10}:T ratio (i.e., baffling factor) for the finished water storage reservoir (clearwell), with both minimum and maximum anticipated flow rates, and minimum anticipated clearwell water height. These tests are designed to verify that the system can meet the 0.5-log *Giardia* and 2-log virus inactivation requirements at these conditions. Baffling factors were successfully measured for both the YVRWFF clearwell for two different flow conditions, meeting the objectives of the tracer test.

The results of the tracer study are summarized in Table 5, and are as expected for the ascending curves, based on previous estimates. Based on an L:W ratio of 21 for the clearwell, and information received previously from DDW, the expected baffling factor of 0.48. Tables 5 & 6 illustrate that there is a notable discrepancy between the T_{10}:T ratio between the ascending and descending curves. Appendix E provides the flow conditions and

reservoir height throughout both tracer studies, and illustrates that inconsistent flow and depth likely caused the ratio discrepancies, and higher-than-anticipated values for the receding curves (particularly for the 11 MGD trial). It is suggested that while the 11 MGD trial did not keep as consistent a flow or reservoir height, the data can be adjusted (according to flow and height conditions) to have similar results as the 6 MGD trial. Using the more conservative values of the ascending and receding ratios from the trials, the ascending curve value should be considered (Table 7).

Table 7 – Summary of Tracer Study Results

Segment	Flow rate (MGD)	Ascending T_{10}:T	Receding T_{10}:T
Finished Water Storage Reservoir	11	0.43*	0.59*
Finished Water Storage Reservoir	6	0.49	0.59

*Corrected for flow and tank level variations only

Based on the tracer test results, it is suggested that the more conservative baffling factor from the 11 MGD trial of 0.43 be used for the clearwell at YVRWFF.

References

Coulliette, A.D., and M.J. Arduino. (2018) Hemodialysis and Water Quality. *Semin Dial.* 26(4): 427-438.

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Food and Drug Administration (FDA). (2011) *Code of Federal Regulations (CFR) – Water purification system for hemodialysis* [Title 21, volume 8, 876.5665].

Kam, T.K.J., and C.T. Chan. (2017) Handbook of Dialysis Therapy, Chapter 15. Elsevier, Inc.: Philadelphia.

Layman-Amato, R., Curtic, J., and G.M. Payne. (2013) Water Treatment for Hemodialysis: An Update. *Nephrol. Nurs. J.* 40(5): 383-465.

Yucaipa Valley Water District

Workshop Memorandum 18-201

Date: August 14, 2018

Prepared By: Kevin Lee, Interim Wastewater Manager
Thaxton Van Belle, Interim Wastewater Manager

Subject: Status Report on the Rehabilitation of Belt Press No. 1 and No. 2

On February 20, 2018, the Board of Directors authorized the refurbishment of Belt Press No. 1 and No. 2 at the Wochholz Regional Water Recycling Facility for a sum not to exceed $349,561. [Director Memorandum No. 18-032]

The Belt Press Rehabilitation project has started with equipment arriving since mid-July. The contractor started the rehabilitation on Tuesday July 24, 2018.

Administrative Items

Yucaipa Valley Water District

Yucaipa Valley Water District

Workshop Memorandum 18-202

Date: August 14, 2018

From: Joseph Zoba, General Manager

Subject: Overview of Resolution No. 2018-xx Updating the Calculation of Facility Capacity Charges Related to the Purchase of Water Resources for New Development within the Boundary of the San Gorgonio Pass Water Agency and the City of Calimesa

The Yucaipa Valley Water District currently charges $13,478 per dwelling unit for facilitate capacity charges for each new residential unit constructed in our service area. This fee recovers costs expended by the District for the construction of the following facilities:

Description of Drinking Water Component	Existing Facility Capacity Charges
Yucaipa Valley Regional Water Filtration Facility	$3,811
Recycled Water System	$823
Booster Pumping Plants	$885
Pipeline Facilities	$4,407
Water Storage Reservoirs	$3,552
Total	**$13,478**

While the District's development related fees are typically more expensive than neighboring agencies, the Yucaipa Valley Water District has consistently pursued extensive improvements and fully-integrated solutions to secure long-term, reliable, and resilient water and sewer service for our customers.

On July 27, 2015, the Board of Directors of the San Gorgonio Pass Water Agency ("SGPWA") adopted Resolution No. 2015-05 adopting facility capacity fees for new infrastructure and additional water resources. The adoption of this resolution was deemed necessary by the SGPWA to "…meet future increasing demands for SGPWA supplemental water to the SGPWA service area which will require additional water facilities to be constructed to distribute water and to acquire additional water rights to meet future increasing demands."[1]

On September 19, 2017, the Board of Directors adopted Resolution No. 2017-23 Establishing the Methodology to Calculate and the Collection of Facility Capacity Charges Related to the Purchase

[1] This fee only is applicable to developments in the Calimesa portion of the Yucaipa Valley Water District service area. The portion of the Yucaipa Valley Water District in the City of Yucaipa receives imported water servce from the San Bernardino Valley Municipal Water District.

of Water Resources for New Development within the Boundary of the San Gorgonio Pass Water Agency and the City of Calimesa.

Section 2.E. of Resolution No. 2017-23 provides for an adjustment of the fee based on "…on (i) changes by the San Gorgonio Pass Water Agency as provided in Resolution No. 2015-05 and subsequent versions; and (ii) on October 1st of each year based on the State Water Project reliability determination as of September 30th by the California Department of Water Resources".

Based on the methodology within Resolution No. 2017-23, the additional cost per residential dwelling unit in the City of Calimesa was calculated to be $4,683 for a home that is dual-plumbed to receive recycled water for front and rear yard irrigation use. This charge is not applicable to new development in the City of Yucaipa.

Methodology Used to Calculate the Supplemental Water Facility Capacity Charge for Supplemental Water Resources

- One Domestic Use Factor (1.0 DUF) = 10 kgal/monthly billing period
  - *Annual Drinking Water Demand = 120 kgal per year - Estimated*[2]
  - *Daily Drinking Water Demand of 330 gpd/EDU - Estimated*[3]
- 0% Interest
- 49.0% State Water Project Reliability Factor - Ten-Year Rolling Average
  - *2018 State Water Project Allocation on September 30 - 35% (DWR Notice 17-05)*
  - *2017 State Water Project Allocation on September 30 - 85% (DWR Notice 17-05)*
  - *2016 State Water Project Allocation on September 30 - 60% (DWR Notice 16-06)*
  - *2015 State Water Project Allocation on September 30 - 20% (DWR Notice 15-03)*
  - *2014 State Water Project Allocation on September 30 - 20% (DWR Notice 14-08)*
  - *2013 State Water Project Allocation on September 30 - 35% (DWR Notice 13-09)*
  - *2012 State Water Project Allocation on September 30 - 65% (DWR Notice 12-09)*
  - *2011 State Water Project Allocation on September 30 - 80% (DWR Notice 11-06)*
  - *2010 State Water Project Allocation on September 30 - 50% (DWR Notice 10-11)*
  - *2009 State Water Project Allocation on September 30 - 40% (DWR Notice 09-07)*
  - ~~*2008 State Water Project Allocation on September 30 - 35% (DWR Notice 08-03)*~~
- $6,231/Acre Foot Permanent Water Right Estimate
  - *Most Recent San Gorgonio Pass Permanent Water Right Purchase Estimate*

Calculation:

$$120\ \text{kgal} \times \frac{1{,}000\ \text{gal}}{1\ \text{kgal}} \times \frac{0.000003069\ \text{AF}}{\text{gallon}} \times \frac{\$6{,}231}{\text{Acre Foot}} \times \frac{1}{0.490\ \text{Reliability}} = \mathbf{\$4{,}683/EDU}$$

Based on the updated calculation, it appears that the additional charge will remain at $4,683/EDU.

[2] This quantity may be updated or modified in a project specific development agreement.
[3] This quantity may be updated or modified in a project specific development agreement.

RESOLUTION NO. 2017-23

A RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT ESTABLISHING THE METHODOLOGY TO CALCULATE AND THE COLLECTION OF FACILITY CAPACITY CHARGES RELATED TO THE PURCHASE OF WATER RESOURCES FOR NEW DEVELOPMENT WITHIN THE BOUNDARY OF THE SAN GORGONIO PASS WATER AGENCY AND THE CITY OF CALIMESA

WHEREAS, the Yucaipa Valley Water District (the "District") is a public agency of the State of California organized and existing pursuant to the provisions of the County Water District Law of this State (Section 30000, et seq. of the Water Code); and

WHEREAS, the District has adopted Facility Capacity Charges for drinking water, sewer, and recycled water services; and

WHEREAS, the District's Board of Directors reviewed Resolution No. 2015-05 adopted by the San Gorgonio Pass Water Agency (the "Pass Water Agency") and its Capacity Fee Study and documentation ("Study") supporting the need for supplemental water to provide service to new development within the boundary of the Pass Water Agency; and

WHEREAS, the above-referenced Study was considered by the District's Board of Directors at several board workshops, board meetings, and the public hearing; and

WHEREAS, the District's Board of Directors is expected to secure supplemental water from the Pass Water Agency when a permanent source of supply is secured and available to provide service to new development within the service area of the Pass Water Agency; and

WHEREAS, the purpose of the supplemental water capacity charge is to purchase and/or finance, in whole or in part, permanent water rights dedicated to the District or fund the implementation of a similar program that provides the same permanent water supply for new development within the boundary of both the District and the Pass Water Agency; and

WHEREAS, the fee structure and methodology established herein is set forth as the supplemental water fee adopted by the Pass Water Agency (as may be modified) in its Resolution No. 2015-05, Section 7 as a reasonable estimate for securing supplemental water rights unless modified by the District's Board of Directors; and

WHEREAS, the facts and evidence presented to the District's Board of Directors during previous board workshops and board meetings, including the Pass Water Agency's Study, demonstrate that the facility capacity charge related to supplemental water to be levied by the District will not exceed the estimated reasonable cost for providing the services for which the capacity charges are imposed and, therefore, complies with Government Code Section 66013; and

WHEREAS, the District is relying upon the facts and evidence presented in the Pass Water Agency's Study to support the need for the supplemental facility capacity charge expected to be assessed by the Pass Water Agency; and

WHEREAS, the supplemental water facility capacity charge established herein is exempt from the California Environmental Quality Act, Public Resources Code, Section 21080(b)(8) because the charges are imposed to obtain funds necessary to maintain services within the District; and

WHEREAS, this resolution shall be implemented to supplement the facility capacity charges currently in effect by the Yucaipa Valley Water District; and

WHEREAS, the charges set forth herein are being adopted following a public hearing and notices provided in accordance with the requirements of Government Code, Section 66000, et seq.,

NOW, THEREFORE, BE IT RESOLVED by the Board of Directors of the Yucaipa Valley Water District, as follows:

1. Purpose and Implementation. The charges set forth herein are for the purpose of implementing the San Gorgonio Pass Water Agency Resolution No. 2015-05 provided as Exhibit A and as supported by the Pass Water Agency's Study.

2. Implementation of the San Gorgonio Pass Water Agency Resolution No. 2015-05. The Board of Directors of the Yucaipa Valley Water District hereby directs the General Manager to include language in development agreements within the boundary of the San Gorgonio Pass Water Agency, subject to further review and approval by the Board of Directors, adequate to ensure permanent water resources are secured for all new development within the San Gorgonio Pass Water Agency boundary:

   A. All new development shall be required to be dual-plumbed with recycled water to meet the irrigation demands; and drinking water to meet drinking water and fire flow demands, unless approved otherwise by the Board of Directors.

   B. A Domestic Use Factor (DUF) shall be based on an equivalent volume of drinking water estimated to meet domestic water demands for a typical equivalent single-family residential dwelling unit (EDU). The District staff shall evaluate the conversion factor for the DUF based on data acquired for developments within the District's service area. While one DUF is equal to 10 kgal per monthly billing period in the sample methodology, the General Manager, or designee, may suggest modifications or revisions to update the DUF for specific projects. Any modification to the estimated DUF shall be included in a project-specific development agreement.

   C. Drinking water demand shall be determined for each parcel in units of gallons per day per Equivalent Dwelling Unit (gpd/EDU) and expressed as a Domestic Use Factor (DUF) to 1/10th. The DUF will be used the calculate the Supplemental Water Facility Capacity Charge for each parcel within the Pass Water Agency service area.

      Typical components used to calculate the Supplemental Water Facility Capacity Charge for the purchase of permanent water supplies shall include: (i) the DUF for each parcel; (ii) the actual interest charge incurred by the District necessary to finance the construction of facilities or purchase of supplemental water rights; (iii) the rolling average of ten prior years of State Water Project reliability as determined by the California Department of Water Resources in effect on September 30th of each

calendar year; and (iv) the estimated or actual cost of securing permanent supplemental water supplies by the San Gorgonio Pass Water Agency.

An example of the calculation methodology is provided in Exhibit B.

D. Property owners and/or developers that provide sufficient secured water rights and/or water resources shall receive a credit for the Supplemental Water Facility Capacity Charge required by this Resolution if the secured water resources are permanently dedicated to the Yucaipa Valley Water District and identified in a development agreement for the specific property/parcels.

E. Based on the example calculation methodology illustrated in Exhibit B, the Supplemental Water Facility Capacity Charge shall be adjusted based on (i) changes by the San Gorgonio Pass Water Agency as provided in Resolution No. 2015-05 and subsequent versions; and (ii) on October 1st of each year based on the State Water Project reliability determination as of September 30th by the California Department of Water Resources. Any change, except for the DUF, shall be subject to reconsideration by the Board of Directors.

3. Monthly Water Demands in Excess of Paid Supplemental Water Facility Capacity Charge. The Board of Directors of the Yucaipa Valley Water District hereby directs the implementation of a surcharge for drinking water demands by customers that exceed the quantity of Supplemental Water Facility Capacity Charge as determined and assessed to each parcel for the use of supplemental water rights on an as needed basis.

A. The Domestic Use Factor (DUF) used to calculate the Supplemental Water Facility Capacity Charge shall be evaluated each billing period to determine if the quantity of drinking water delivered exceeded the DUF purchased for the property.

B. If the quantity of drinking water delivered is equal to or less than the DUF used to calculate the Supplemental Water Facility Capacity Charge, then no surcharge shall be applied.

C. If the quantity of drinking water delivered is greater than the DUF used to calculate the Supplemental Water Facility Capacity Charge, then the surcharge shall be applied as provided in a future resolution adopted by the Board of Directors.

4. Equivalent Alternatives to Secured Supplemental Water Sources. The Board of Directors of the Yucaipa Valley Water District hereby directs the District staff to pursue the planning and implementation of direct potable reuse of recycled water as a feasible alternative to securing supplemental imported water from areas outside of the Yucaipa Valley Water District and securing additional water rights. Funds collected pursuant to this Resolution may be substituted for constructing and implementing a direct potable reuse project at the Wochholz Regional Water Recycling Facility and the Yucaipa Valley Regional Water Filtration Facility or the purchase of water rights. Furthermore, the District staff is directed to pursue Federal and State funding to bridge the anticipated shortfall in funds if this equivalent source of supply becomes a reliable alternative to imported water.

5. Effective Date. This Resolution shall become effective on July 1, 2018 and shall remain in effect until such time as it is rescinded or superseded.

PASSED, APPROVED and ADOPTED this 19th day of September 2017.

YUCAIPA VALLEY WATER DISTRICT

Jay Bogh, President Board of Directors

ATTEST:

Joseph B. Zoba, General Manager

Exhibit A

RESOLUTION NO. 2015-05

RESOLUTION OF THE BOARD OF DIRECTORS OF THE SAN GORGONIO PASS WATER AGENCY TO ADOPT FACILITY CAPACITY FEES FOR FACILITIES AND WATER

WHEREAS, the San Gorgonio Pass Water Agency (SGPWA) is a public agency formed and existing pursuant to Article 101 of the California Water Code Appendix (SGPWA Act) in 1961; and

WHEREAS, SGPWA entered into a contract with the California Department of Water Resources (DWR) in 1962 for a Table A amount of water capacity in the California State Water Project (SWP) which is currently 17,300 acre feet per year (AFY) to bring supplemental water to the SGPWA service area; and

WHEREAS, there is a need to meet future increasing demands for SGPWA supplemental water to the SGPWA service area which will require additional water facilities to be constructed to distribute water and to acquire additional water rights to meet future increasing demands; and

WHEREAS, the Board of Directors finds and determines that the present existing water importation, production, transportation, delivery facilities and water supplies are inadequate to meet anticipated demand; and

WHEREAS, Section 101 – 27.1(a) of the SGPWA Act authorizes SGPWA to impose a facility capacity fee, which is in the nature of a connection fee, for the right to make a new retail connection to the water distribution system of any retail water distributor that is located within the boundaries of the SGPWA and that obtains all or any portion of its water supplies from SGPWA; and

WHEREAS, Section 101- 27.1(c) also provides the facility capacity fee referred to in subdivision (a) shall be adopted, established, and imposed only following a public hearing and in accordance with the requirements set forth in Chapter 5 (commencing with Section 66000 of Division 1 of Title 7 of the Government Code as it now exists or may hereafter be amended; and

WHEREAS, the Facility Capacity Fee as set forth in the SGPWA Act, Sections 101 – 27.1 (a) through (i) will assist SGPWA to fund (1) the purchase of capacity in existing pipeline systems owned by other public agencies; (2) and additional basin recharge project for underground water storage in the Beaumont groundwater basin, including land purchases associated with such basin activity; and (3) the purchase of new water and/or water rights and entitlements to meet future water demand; and

WHEREAS, pursuant to Section 101 – 27.1 of the SGPWA Act, SGPWA has prepared a Capacity Fee Study (Study) to support the need for additional water facilities and new water and/or water rights in that the existing facilities are not adequate to meet the future increasing water needs in the SGPWA service area; and

WHEREAS, the Study meets the requirements of Section 101 – 27.1 and Government Code Section 66013 to ensure that the Facility Capacity Fee does not exceed the estimated reasonable cost of providing the service for which the fee is imposed and provides a clear and concise document that will serve as the basis for the proposed fee levels; and

WHEREAS, SGPWA has provided all of the notices prior to and conducted a public hearing on July 27, 2015 required by Section 101 – 27.1 (c) of the Agency Act; and

WHEREAS, SGPWA after close of the hearing considered the Study, and proposed Findings.

NOW THEREFORE BE IT HEREBY RESOLVED

1. The matters set forth in the recitals to this Resolution are true and correct statements and are made findings and determinations of the Board of Directors.

2. That the Findings as set forth on Attachment 1 concerning the Study are hereby adopted.

3. The Board of Directors finds that the Facility Capacity Fees as defined in the Study and the Findings are for the purpose of obtaining funds for capital projects necessary to maintain service within SGPWA as set forth in this Resolution and, therefore, the establishment of such fees is not subject to the California Environmental Quality Act.

4. That the Study is hereby approved.

5. That the Facility Capacity Fees as set forth in the Study and on Attachment 2 hereof are hereby adopted and shall take effect immediately.

6. The General Manager is authorized to contract with the counties in which it is located and with the cities within the SGPWA for the collection of the Facility Capacity Fee along with building permit fees or other fees related to the improvement of property, or may contract for collection of the Facility Capacity Fees by the water retail distributors (SGPWA Act 101 – 27.1 (f)).

7. The Facility Capacity Fee component shall be automatically adjusted without further action of the Board effective on July 1st of each year, beginning July 1, 2016, by a percentage equal to the change in Construction Cost Index for Los Angeles as published by Engineering New Record for the preceding twelve months as set forth in the Study.

8. The Facility Fee component of the facility capacity fee shall be reviewed periodically as determined by the General Manager to determine if changes are needed and reasonable in unit prices, facility requirements, and water demands and demographics in order to ensure that Facility Fee cost allocations are reasonable and that collections over time will fund the required facilities.

9. The Water Capacity Fee component shall be reviewed annually in the month of July, commencing July 1, 2016 to adjust the Water Capacity Fee by a reasonable percentage based on the cost of actual water purchases, an updated water rights appraisal or comparisons of recent

purchases of additional water rights by statewide municipalities and special districts over the preceding twelve months.

10. The General Manager is further authorized to take any and all other actions to implement and carry out this resolution.

11. All resolutions or administrative actions by the Board of Directors, or parts thereof that are inconsistent with any provision of this Resolution are hereby superseded only by this Resolution to the extent of such inconsistency.

12. If any section, subsection, clause, sentence, or phrase in this Resolution is for any reason held invalid, the validity of the remainder of this Resolution shall not be affected thereby. The Board hereby declares it would have passed this Resolution and each section, sentence, clause or phrase thereof, irrespective of the fact that all or more sections, subsections, clauses, sentences, or phrase are held invalid.

13. The Resolution shall take effect immediately.

AYES:

NOES:

DATE: July 27, 2015

SAN GORGONIO PASS WATER AGENCY

By _____
Secretary of the Board of Directors

Exhibit B

Sample Methodology to Calculate the Supplemental Water Facility Capacity Charge

Assumptions:

- One Domestic Use Factor (1.0 DUF) = 10 kgal/monthly billing period
  - *Estimated Annual Drinking Water Demand = 120 kgal per year*[4]
  - *Estimated Daily Drinking Water Demand of 330 gpd/EDU*[5]
- 0% Interest
- 49.0% State Water Project Reliability Factor - Ten-Year Rolling Average
  - *2017 State Water Project Allocation on September 30 - 85% (DWR Notice 17-05)*
  - *2016 State Water Project Allocation on September 30 - 60% (DWR Notice 16-06)*
  - *2015 State Water Project Allocation on September 30 - 20% (DWR Notice 15-03)*
  - *2014 State Water Project Allocation on September 30 - 20% (DWR Notice 14-08)*
  - *2013 State Water Project Allocation on September 30 - 35% (DWR Notice 13-09)*
  - *2012 State Water Project Allocation on September 30 - 65% (DWR Notice 12-09)*
  - *2011 State Water Project Allocation on September 30 - 80% (DWR Notice 11-06)*
  - *2010 State Water Project Allocation on September 30 - 50% (DWR Notice 10-11)*
  - *2009 State Water Project Allocation on September 30 - 40% (DWR Notice 09-07)*
  - *2008 State Water Project Allocation on September 30 - 35% (DWR Notice 08-03)*
- $6,231/Acre Foot Permanent Water Right Estimate
  - *Most Recent San Gorgonio Pass Permanent Water Right Purchase Estimate*

Calculation:

$$120\ \text{kgal} \times \frac{1{,}000\ \text{gal}}{1\ \text{kgal}} \times \frac{0.000003069\ \text{AF}}{\text{gallon}} \times \frac{\$6{,}231}{\text{Acre Foot}} \times \frac{1}{0.490\ \text{Reliability}} = \mathbf{\$4{,}683/EDU}$$

[4] This quantity may be updated or modified for a specific project and such a change will be identified in the development agreement for the subject property.
[5] This quantity may be updated or modified for a specific project and such a change will be identified in the development agreement for the subject property.

Yucaipa Valley Water District

Workshop Memorandum 18-203

Date: August 14, 2018

From: Joseph Zoba, General Manager

Subject: Discussion Regarding the Preparation of Information to Communicate with Customers, Regulators and Stakeholders

On March 8, 2018, the Board of Directors discussed the implementation of a public relations and outreach program that would include the following elements:

- **Public Relations and Outreach** - Plan and implement a program to gain and enhance the District's presence involving:
  - Social media;
  - Website refresh and upgrades;
  - Video clips;
  - Summary of the District's operations;
  - Historical information; and
  - Near real-time press releases.

On April 3, 2018, the Board of Directors authorized the preparation of a historical summary of the Yucaipa Valley Water District with Crider Public Relations. The material generated from the historical summary will be used to prepare videos and social media clips in the future.

On May 22, 2018, the District staff presented a concept of preparing a Request for Proposals for Digital Creative Services [WM 18-135]. This RFP would include the following scope of services:

- Develop and execute a Search Engine Optimization (SEO) strategy for the District.
- Develop and provide a 4-page monthly e-newsletter including design, content development, and photographs in native file formats approved by the District and as a PDF for distribution by the District.
- Develop a series of new customer on-boarding engagement email messages and content about the District services, meetings, and service options.
- Prepare, develop, and produce 3-minute videos about the following services and activities by the District:
  - Brine disposal;
  - Cross-connection needs and issues;
  - Dual-plumbing requirements for new homes;
  - Emergency preparedness;
  - Environmental protection;
  - General water issues;
  - Geographical Information Systems (GIS);
  - Operations and maintenance activities;
  - Recycled water fill station;
  - Recycled water recharge;
  - Recycled water;

    - Reverse osmosis needs and opportunities;
    - Science, technology, engineering, and math (STEM) in the water/sewer industry;
    - Sewer collection;
    - Sewer treatment;
    - State Water Project partners (SBVMWD and SGPWA);
    - Sustainability goals;
    - Water supply sources; and
    - Water/sewer operator certifications.
        - Videos to maintain the same theme, branding, color scheme in a raw and finished format.
- An additional five videos may be requested for assorted topics during the fiscal year.
- Develop ten video introductions (15 seconds) and ten video closings in a raw format that can be used to add titles in the future.
- Develop and implement a communication strategy, material, and videos for informing and training recycled water customers that purchase or rent dual-plumbed homes.

At this board workshop, the District staff interpreted the discussion to proceed with a dual-strategy that includes:

- Recruitment of a public relations firm to:
    - Develop and provide guidance for a communication strategy;
    - Develop and provide guidance for a social media campaign;
    - Develop various news releases;
    - Develop content to update the District website;
    - Develop recycled water user materials; and
    - Develop scripts for video content.
- Selection of a public relations firm or a video specialty firm to:
    - Develop short videos about drinking water, recycled water, and sewer service based on the topics discussed on May 22nd.

The District staff is in the process of preparing a revised Request for Proposals that will be presented at the board workshop.

Yucaipa Valley Water District

Workshop Memorandum 18-204

Date: August 14, 2018

Prepared By: Thaxton Van Belle, Interim Operations Manager

Subject: Consideration of Classifying Vehicle No. 48 as Surplus Property

The District staff periodically reviews the District property to determine the continued need for various items. Declaration as surplus property of unneeded or worn out items allows the District staff to remove these items from the District property books and to dispose of the items in accordance with the law. Removal of surplus and unnecessary items from the property books also allows the District to eliminate costs from our insurance coverage, thereby keeping insurance rates down.

Vehicle #48 (CMMS# VE-15048) is a 2002 Chrysler GEM that has exceeded its useful life. Parts are either no longer available (Chrysler discontinued the GEM division in 2011) or the costs are excessive. Therefore, this vehicle should be declared surplus.

Yucaipa Valley Water District

Workshop Memorandum 18-205

Date: August 14, 2018

From: Kathryn Hallberg, Implementation Manager

Subject: Overview of Claim for Repair Cost Related to Water Line Repair on Panorama Drive - Bolen

On July 16, 2018, the Yucaipa Valley Water District received a claim from Ms. Patsy Bolen ("Claimant") for repair cost ($2,975.00) due to a water line break and interruption of service to the Claimants home on Panorama Drive on June 28, 2018.

On June 28, 2018 the Claimant stated due to the main line break and water service interruption the water to the Claimants residence was turned off. The Claimant came home later that day to find her laundry room had flooded with muddy water. The Claimant called a plumbing company and the plumber told the Claimant that as the water was turned back on it caused the Claimants water pipe to rupture.

The claim was turned in to the office on July 16, 2018. The Claimant is requesting to be reimbursed for the repair cost from Big Mike's Plumbing, Invoice 52087, from June 28, 2018 in the amount of $2,975.

District Staff recommends denial of the claim and referring the Claimant to the District insurance company.

Financial Consideration

Based on the recommendation, there is no financial impact to the District at this time.

YUCAIPA VALLEY WATER DISTRICT – CLAIM FORM

INSTRUCTIONS

On the reverse side of sheet is a claim form for filing a claim against Yucaipa Valley Water District. The original and one identical copy of this form, together with a copy of all attachments, are to be filed with the Yucaipa Valley Water District. Retain one copy for your records. Please send to this address:

Yucaipa Valley Water District

Attn: Claims Dept.

12770 2nd St

Yucaipa, Ca. 92399

(909) – 797-6381 FAX

Please fill out form completely. Additional sheets may be attached if more space is needed. Missing information may delay the processing of your claim. Please print.

Claims:

Claims for death, injury to person or personal property must be filed not later than six months after the occurrence. (Gov. Code Sec. 911.2)

Claims for damage relating to any other cause of action must be filed not later than 1 year after the occurrence. (Gov. Code Sec. 911.2)

This claim form must be signed and dated.

Who is Responsible for Damages?

No utility is in a position to guarantee 100 percent continuity of water service. However, it is our policy to investigate claims in order to determine if our conduct or inaction was unreasonable under the circumstances, thereby causing injury or damages. YVWD will not be liable for interruption or shortage or insufficiency of supply, or any loss or damage of any kind, if same is caused by inevitable accident, act of God, fire, strikes, riots, war, or any other cause except that arising from its failure to exercise reasonable diligence.

Determination of Responsibility and Payment if YVWD is at fault

YVWD will conduct an investigation based on the information you provide on your claim form and internal YVWD records and interviews with YVWD field personnel. The investigation results will determine weather your claim is accepted or rejected. If your claim is accepted, YVWD's payment with regard to property damage will depend on the extent of damage and value of the property. If the property can be repaired, YVWD will pay the cost of repair. If the property cannot be repaired, YVWD will generally pay reasonable market value for the property at the time it was damaged, or the depreciated cost to replace the property, whichever is less. Payment for bodily injury is determined by several factors including, but not limited to, type and severity of injury, medical bills incurred, loss of wages (if any) and permanent disability sustained (if any).

Claim for Damage

Name PATSY A BOLEN	Clerks Date Stamp
Address 36226 PANORAMA YUCAIPA, CA 92399	
Phone(s) Business WK 909-383-4287 Home 909-797-7229 Message/Cell 909-501-6525	
E-mail: X013	
Address at time of loss/Incident:	*This box is for Official Use only!

Description of Details: (Describe how the loss/incident occurred)

See attached

(Attach additional pages and supporting documentation as needed)

YVWD's involvement :(If possible, please identify employee and/or department involved) ROBBIE

Witnesses: (please provide address and phone numbers)

1.	2.	3.

Property Damage (please describe the value and extent of the damage to your home, automobile or personal property: (Attach estimates, bills, or whatever documentation of damages you have)

Broken pipe

Make:_____ Model:_____ Year:_____ License #_____ Insurance Co._____ Policy #:_____

Where you Injured?: No: ☐ Yes: ☐ (If yes please complete the following)
Describe your injury (Identity your doctor(s)/Health care provider(s)
Are you still receiving Medical Treatment? No: ☐ Yes: ☐
Employer: Type of Work:
Wage Loss? No: ☐ Yes: ☐ If Yes, rate of pay:

*"I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct"

Date and Place (City and State)	Signature

Automobile Accident Report

Date:		
Name of Owner of Your Vehicle:		
Model Year:	Make of Car:	Body Style:
State and License No.	Mileage:	IF Leased, by Whom Held
Name of Your Insurance Co.		
Type of Insurance Carried		
Name of Driver:	Address:	Phone No.:
Relationship of Driver To Owner:	Driver's Date of Birth:	Driver's License No.:
Date of Accident:	Time: (AM / PM)	Location: (Address No. And Street)
City- Town:	State:	

OCCUPANTS OF VEHICLE:

Name	Address	Approx. Age	Relation to Owner	Your Vehicle	Other Vehicle	Ped.	Injured

Nature of injuries: _____

Where Treated: _____ Name of Treating Physician: _____

DAMAGE TO PROPERTY OF OTHERS

Extent of Damage: _____

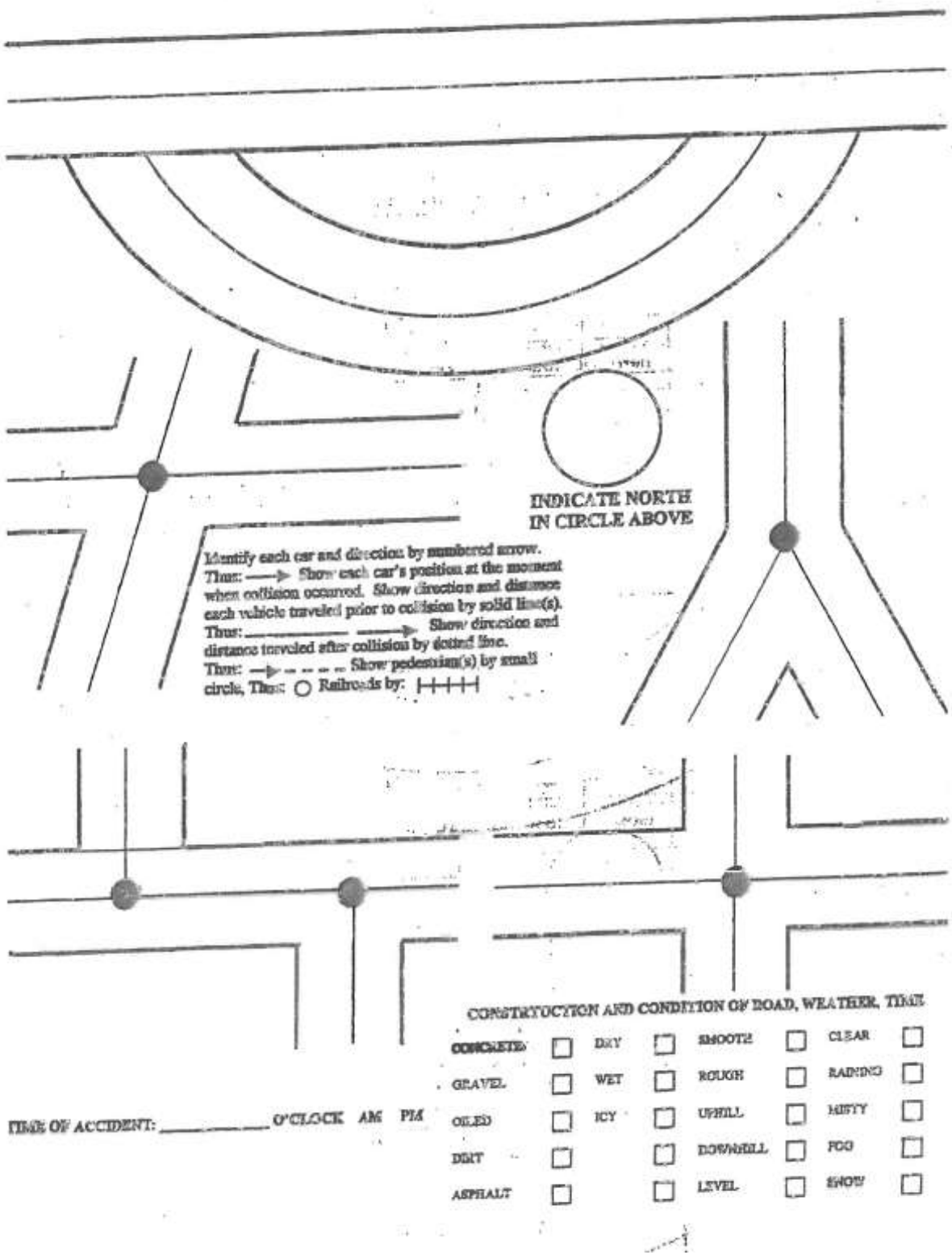
If Auto, Make of Vehicle:	State and License #:	Driver's License #:
Owner's Name	Address:	Phone:
Driver's Name (if different)	Address:	Phone:

Witnesses, (include occupant's of Vehicle)

Name:	Address:	Phone:

Date: 7-10-2018 Signature: Patsy A. Bolen

*Must Complete Back Page!


INDICATE NORTH
IN CIRCLE ABOVE
Identify each car and direction by numbered arrow.
Thus: ——▶ Show each car's position at the moment when collision occurred. Show direction and distance each vehicle traveled prior to collision by solid line(s).
Thus: ——————▶ Show direction and distance traveled after collision by dotted line.
Thus: ▶- - - - - Show pedestrian(s) by small circle, Thus: ○ Railroads by: ⊢⊢⊢⊢
CONSTRUCTION AND CONDITION OF ROAD, WEATHER, TIME
CONCRETE ☐ DRY ☐ SMOOTH ☐ CLEAR ☐
GRAVEL ☐ WET ☐ ROUGH ☐ RAINING ☐
OILED ☐ ICY ☐ UPHILL ☐ MISTY ☐
DIRT ☐ ☐ DOWNHILL ☐ FOG ☐
ASPHALT ☐ ☐ LEVEL ☐ SNOW ☐
TIME OF ACCIDENT: _____ O'CLOCK AM PM

Yucaipa Valley Water District

PO Box 730

12770 2nd Street

Yucaipa, CA 92399-0730

Claims Department:

My name is Pat Bolen my address is 36226 Panorama Dr. Yucaipa CA 92399 and I am submitting a bill for repair work that had to be done on a broken water line. On Thursday June 28 early in the morning Robbie (I believe this was the gentlemen's name) came out with a crew to work on replacing the valve by the curb in the street. Therefore the water was turned off and the work was started. When the work was completed which according to my neighbors took a couple of hours they turned the water back on. When I got home after work the laundry room floor had flooded with muddy water and had been running out from under the house towards the back door for how long I do not know. I put an emergency call in to your office and they sent Robbie back out and with another worker to look it over. We turned off the water and they indicated that somewhere there was a broken pipe and to make a claim for repairs. The next morning I called Big Mikes Plumbing (this a company that my office uses for repairs and we can trust them). They went under the house checking pipes, it was discovered that a pipe from the water heater in laundry room had broken and was leaking the water. It was indicated that when the water was turned back on it should have been done slowly instead of going full force. As I mentioned earlier I am submitting a bill for the repair work that was done and hopefully the district will take care of the repair.

Pat Bolen

909-797-7229

909-383-4287 ext 212

RECEIVED
JUL 16 2018
YUCAIPA VALLEY
WATER DISTRICT

Invoice No. 52057

Plumbing Contractor Lic. #734772
Class A -General Engineering
C-36 & C-42

P.S.I. ☐
Over 80 lbs voids all warranties.

www.bigmikesplumbing.com

Tel: (909) 888-8736
Tel: (909) 885-8571
Tel: (909) 798-8187
Tel: (951) 682-5222
FAX (909) 888-0893

AGREEMENT WITH

Name: Pat Bolen
Job At: 36226 Panorama dr
City: Yucaipa
Date: 7-5-18
Seviceman: Scott
Telephone: (909) 797-7229

BILL TO

Name: _____
City: _____
Old Customer: _____
Address: _____
Zip: _____ Phone: _____
New Customer: _____

WORK AUTHORIZATION-I/We hereby authorize the work described along with the necessary materials and parts _____

WORK ORDERED: _____

Labor Guaranteed 30 Days Unless Otherwise Stated

Big Mike's Plumbing is not responsible for landscaping.

DESCRIPTION OF WORK PERFORMED
MATERIAL USED

AMOUNT

Slab Leak in dining room hot water side
had to cut tile and Jackhammer concrete floor
to expose pipe cut out 3 foot section of
Galvanized ½ pipe that was cracked then used
proper repair fitting and new section of pipe
turned water on checked for leaks none at this time
replaced concrete

STOP

E-Mail: _____

Billings		
Credit Cards $		
Cash $		
Estimates		
Checks		
Labor:	#	
Total Materials	#	
Ins. Deductible	#	
TOTAL:	#	1975

TO OUR CUSTOMERS: Service men are required to have work slip signed. This is done in order to protect you, the workmen, and ourselves and to enable us to give you absolute satisfactory service. You are respectfully requested to examine material and labor statement before workmen leave the job, and if you find everything satisfactory, okay this ticket. If service is unsatisfactory, in any way, please phone our office immediately.

"I find the time and material charged above satisfactory and agree to pay for same on presentation of invoice, and further agree to pay reasonable charge for collection including attorneys fees in the event of my default."

A PENALTY WILL BE CHARGED AT THE RATE OF 11/2% PER MONTH ON UNPAID BALANCES AFTER 30 DAYS OF INVOICE DATE. ANNUAL PERCENTAGE RATE 18%.

Signed by X Pat Bolen

by _____

Yucaipa Valley Water District

Workshop Memorandum 18-206

Date: August 14, 2018

Prepared By: Allison M. Edmisten, Chief Financial Officer

Subject: Discussion Regarding Maintaining the Existing 457(b) Deferred Compensation Plans with Voya and CalPERS

At the Board Workshop on July 31, 2018 [DM 18-193], the District staff provided information regarding the consolidation of the current 457(b) Deferred Compensation Plans. At that time the District asked for further information from Voya regarding possible hybrid consolidations of the plans. As of August 8, 2018, the District has not received any further information from Voya.

The District staff recommends to not move this item forward at this time.

In the future, any further discussion regarding changes to the 457(b) Deferred Compensation Plans will be communicated directly with plan participants (employees and retirees) prior to placing a Workshop Memorandum on an agenda.

Financial Consideration

There is no financial impact to the District. All fees are paid by employees who utilize the 457(b) Deferred Compensation Plan option.

Yucaipa Valley Water District

Workshop Memorandum 18-207

Date: August 14, 2018

From: Allison M. Edmisten, Chief Financial Officer
Peggy Little, Administrative Supervisor

Subject: Presentation of the Unaudited Financial Report for the Period Ending on July 31, 2018

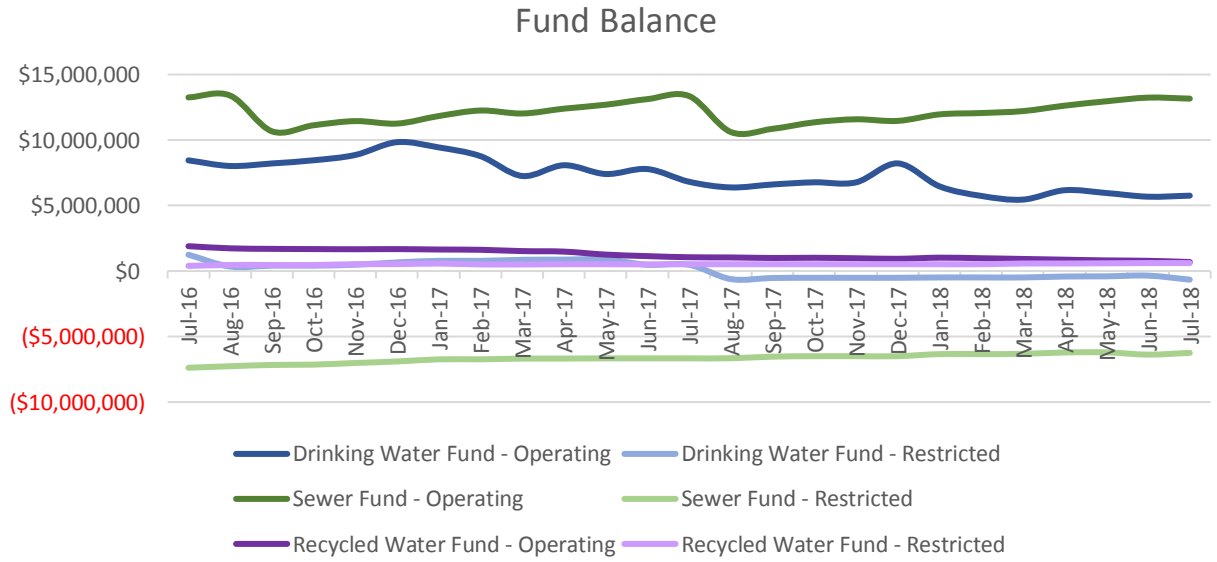
The following unaudited financial report has been prepared by the Administrative Department for your review. The report has been divided into five sections to clearly disseminate information pertaining to the financial status of the District. Please remember that the following financial information has not been audited.

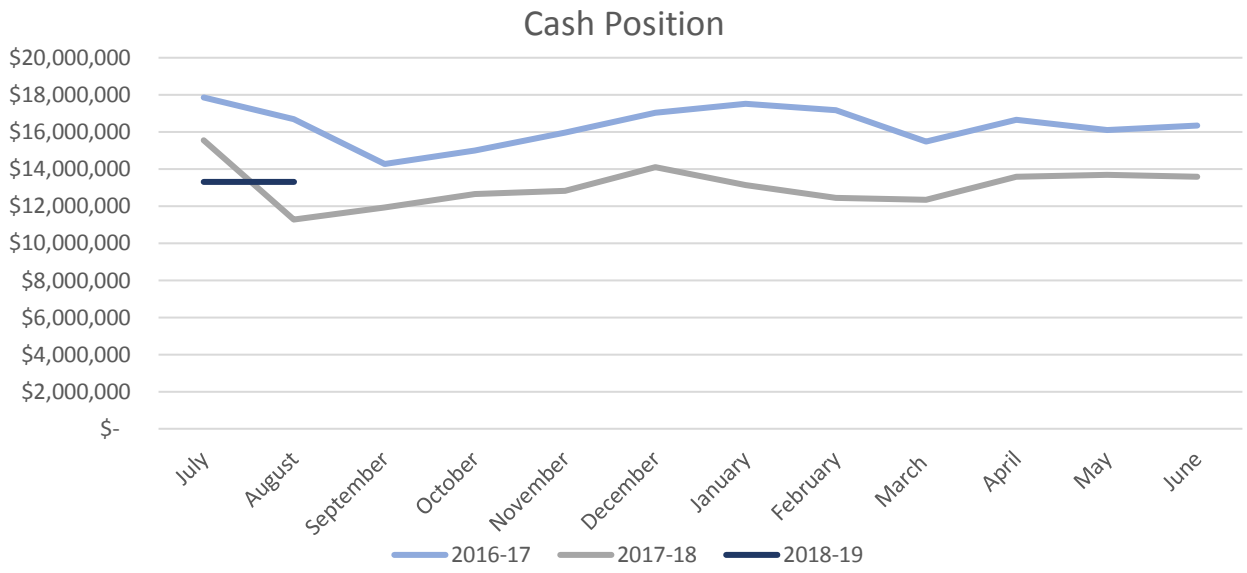
Cash Fund Balance and Cash Flow Reports

[Detailed information can be found on page 7 to 8 of 24]

The Cash Fund Balance Report provides a summary of how the total amount of funds maintained by financial institutions is distributed throughout the enterprise and non-enterprise funds of the District. A summary of the report is as follows:

Fund Source	Operating Funds	Restricted Funds	Total Funds
Water Division	$ 5,752,752.62	$ (655,689.84)	$ 5,097,062.78
Sewer Division	$ 13,159,261.03	$ (6,246,776.51)	$ 6,912,484.52
Recycled Water Division	$ 689,444.76	$ 607,498.41	$ 1,296,943.17
Total	**$ 19,601,458.41**	**$ (6,294,967.94)**	**$ 13,306,490.47**





Most of the funds reflected in the Cash Fund Balance Report are designated for specific purposes and are therefore restricted, either by law or by District policy.

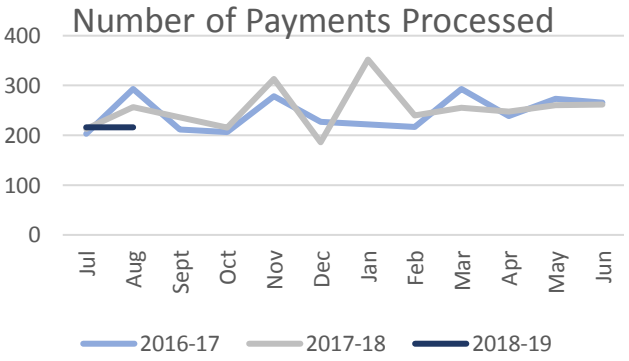
The Cash Flow Report provides a list of the debt service payment due dates and amounts as well as the cash flow requirements for debt service for each month of the fiscal year.

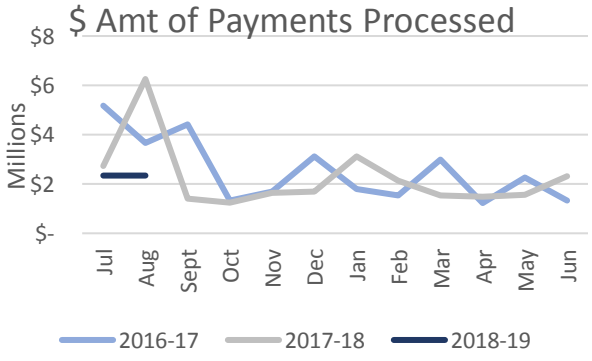
Cash Disbursement Report

[Detailed information can be found on pages 9 to 13 of 24]

The cash disbursement report lists each check and electronic payment processed during the month of July 2018. All payments are reviewed by District staff for accuracy and completeness, checks are usually signed by the General Manager and one Director, but may be signed by two Directors. The Chief Financial Officer will make any check, payment, invoice or supporting documentation available for review to any board member upon request.

	Number Processed	Amount Processed
Checks	203	$ 1,404,885.86
Electronic Payments	13	$ 936,821.17
Total	**216**	**$ 2,341,707.03**





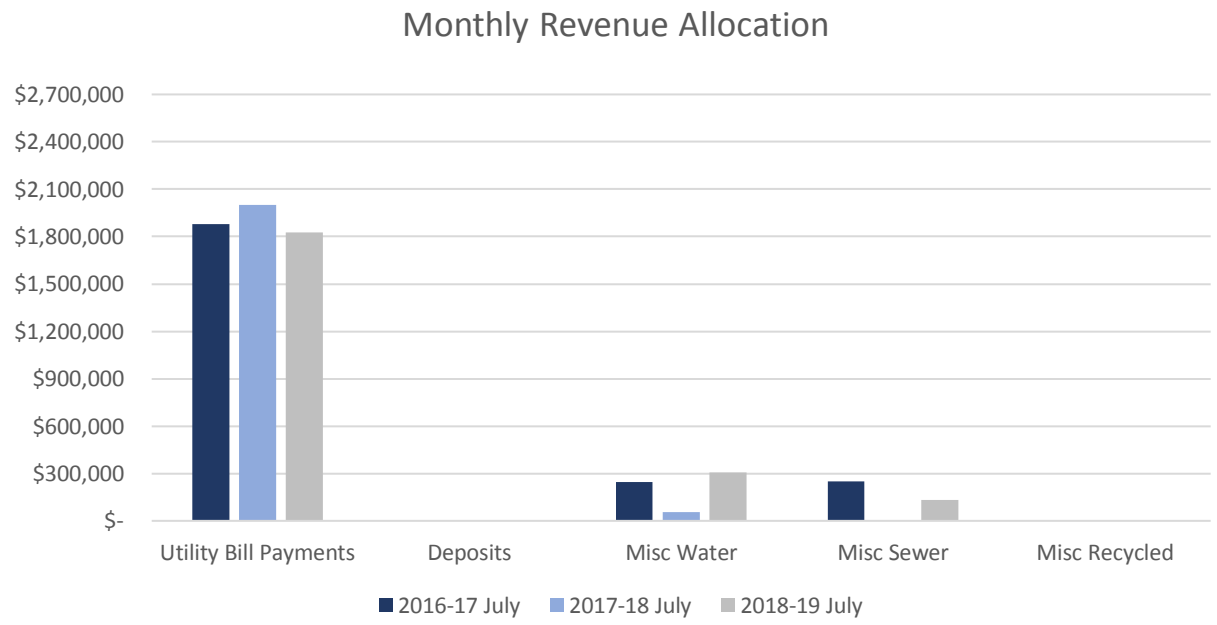
Financial Account Information

The District currently deposits all revenue received into the Deposit Checking account. The General Checking account is used as a sole processing account for all District checks and electronic payroll. The Investment Checking account is used for the purchase and redemption of US treasury notes and bills and for the transfer of LAIF funds. The US treasury notes and bills are booked at cost.

The LAIF investment account is a pooled money account administered by the State of California. Additional information on the LAIF account is provided below in the investment summary report.

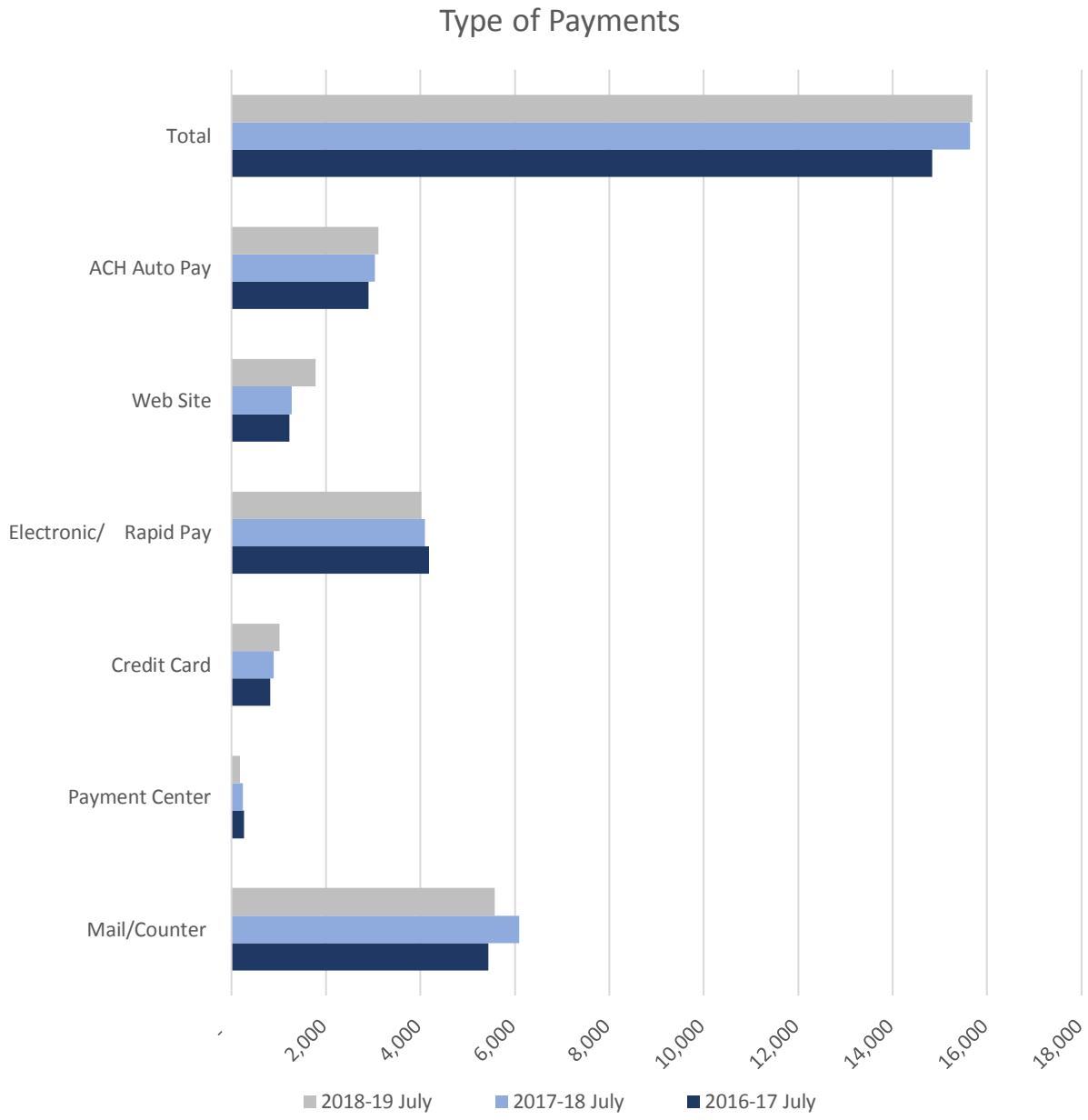
Monthly Revenue Allocation:

Funding Source	Total
Utility Bill Payments	$ 1,828,192.00
Deposits	$ 0
Misc. Water Related Activities	$ 306,212.99
Misc. Sewer Related Activities	$ 131,725.61
Misc. Recycled Related Activities	$ 13.04
Total	**$ 2,266,143.64**



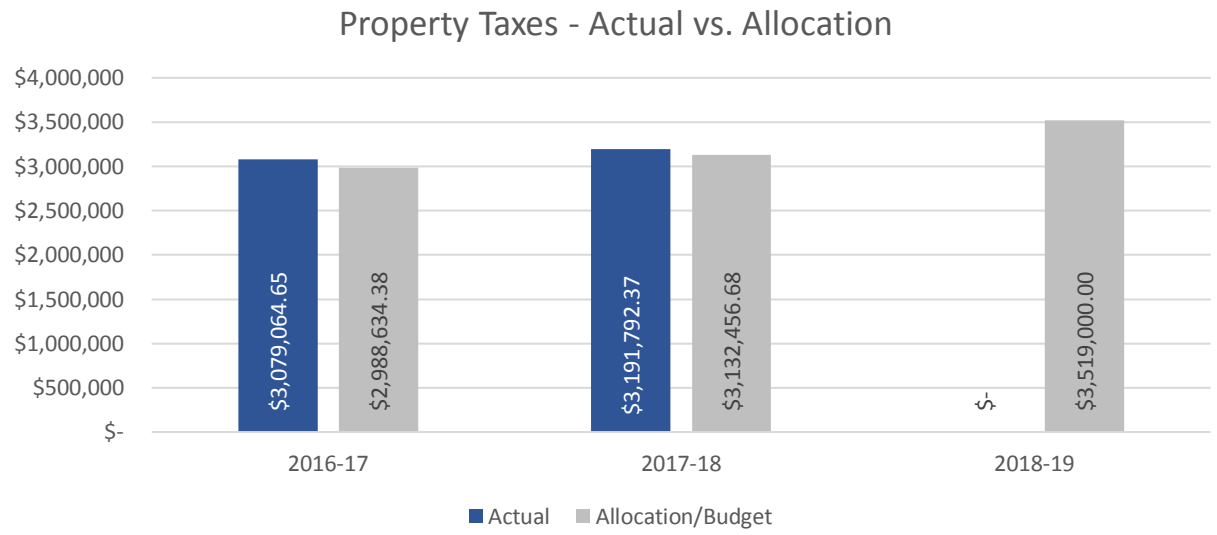
Summary of Utility Bill Payments:

Payment Method	Number of Payments	% of Total Received
Mail/Counter	5,580	35.57%
Payment Center	182	1.16%
Credit Card	1,018	6.49%
Electronic Rapid Pay	4,022	25.64%
Web Site	1,775	11.32%
ACH Auto Pay	3,109	19.82%
Total	**15,686**	**100.00%**



Summary of Property Tax Revenue:

Current Month	Year-to-Date	Budget Amount	Percentage
Property Taxes	$ 0	$ 3,519,000	0%



Investment Summary

[Detailed information can be found on pages 14 to 15 of 24]

The investment summary report illustrates the District's investments in US treasury notes and bills in addition to the investments held by the Local Agency Investment Fund or LAIF. The yields for the treasury notes and bills are provided for each individual transaction. The historical annual yield for funds invested with LAIF is also provided.

Separate pooled money investment reports prepared by the State of California are maintained by the District and available for review.

Investment Policy Disclosure - The District is currently compliant with the portfolio of its Investment Policy and State law. The District is using Sandy Gage with Merrill Lynch Wealth Management (Bank of America Corporation) for Treasury investments. The District expects to meet its expenditure requirements for the next six months.

Fiscal Year 2018-19 Detail Budget Status

[Detailed information can be found on pages 16 to 24 of 24]

The revenue and expense budget status for the 2018-19 Fiscal Year is provided for your review.

Questions or Comments

If you have any questions about a particular budget account, please do not hesitate to contact the Chief Financial Officer directly. If you need additional information, the members of the Administrative Department would be happy to provide you with any detailed information you may desire.

Summary of Revenue Budget
As of July 31, 2018 (5% of Budget Cycle)

Division	Current Month	Year-to-Date	Budget Amount	Percentage
Water	$ 1,005,306	$ 1,005,306	$ 14,150,445	7.10%
Sewer	$ 980,617	$ 980,617	$ 12,337,754	7.95%
Recycled Water	$ 57,108	$ 57,108	$ 1,293,270	4.42%
District Revenue	**$ 2,043,031**	**$ 2,043,031**	**$ 27,781,469**	**7.35%**

Summary of Water Budget vs. Expenses
As of July 31, 2018 (5% of Budget Cycle)

Department	Current Month	Year-to-Date	Budget Amount	Percentage
Water Resources	$ 248,295	$ 248,295	$ 5,274,337	4.71%
Public Works	$ 235,103	$ 235,103	$ 3,177,454	7.40%
Administration	$ 296,984	$ 296,984	$ 3,403,916	8.72%
Long Term Debt	$ -	$ -	$ 2,294,738	0.00%
Asset Acquisition	$ -	$ -	$ -	0.00%
TOTAL	**$ 780,382**	**$ 780,382**	**$ 14,150,445**	**5.51%**

Summary of Sewer Budget vs. Expenses
As of July 31, 2018 (5% of Budget Cycle)

Department	Current Month	Year-to-Date	Budget Amount	Percentage
Treatment	$ 251,156	$ 251,156	$ 4,256,607	5.90%
Administration	$ 226,263	$ 226,263	$ 2,924,466	7.74%
Environmental Control	$ 89,969	$ 89,969	$ 1,322,963	6.80%
Long Term Debt	$ -	$ -	$ 3,833,718	0.00%
Asset Acquisition	$ -	$ -	$ -	0.00%
TOTAL	**$ 567,388**	**$ 567,388**	**$ 12,337,754**	**4.60%**

Summary of Recycled Water Budget vs. Expenses
As of July 31, 2018 (5% of Budget Cycle)

Department	Current Month	Year-to-Date	Budget Amount	Percentage
Administration	$ 63,439	$ 63,439	$ 1,293,270	4.91%
TOTAL	**$ 63,439**	**$ 63,439**	**$ 1,293,270**	**4.91%**
District Expenses	**$ 1,411,209**	**$ 1,411,209**	**$ 27,781,469**	**5.08%**

Cash Fund Balance Report - July 2018

	Water Division	GL#		Balance
Restricted	*ID 1 Construction Funds	02-10216	$	293,145.85
	*ID 2 Construction Funds	02-10217	$	80,409.31
	*FCC - Debt Service YVRWFF Phase I	02-10401	$	(3,849,600.07)
	*FCC - Future YVRWFF Phase II & III	02-10403	$	439,442.53
	*FCC - Recycled System	02-10410	$	(834,641.26)
	*FCC - Booster Pumping Plants	02-10411	$	721,578.74
	*FCC - Pipeline Facilities	02-10412	$	165,800.49
	*FCC - Water Storage Reservoirs	02-10413	$	2,328,174.57
Operating	Depreciation Reserves	02-10310	$	625,937.77
	Infrastructure Reserves	02-10311	$	4,006,083.00
	Sustainability Fund	02-10313	$	158,554.86
	Rate Stabilization Fund	02-10314	$	500,209.14
	Imported Water Fund - MUNI	02-10315	$	575,711.69
	Imported Water Fund - SGPWA	02-10316	$	735,643.08
	Operating Funds:		$	(849,386.92)
		Total Water Division	**$**	**5,097,062.78**

	Sewer Division	GL#		Balance
Restricted	*SRF Reserve Fund - Brineline	03-10218	$	637,449.00
	*SRF Reserve Fund - WISE	03-10219	$	184,928.00
	*SRF Reserve Fund - R 10.3	03-10220	$	51,531.00
	*SRF Reserve Fund - Crow St	03-10221	$	19,255.00
	*FCC - Debt Service WWTP Expansion & Upgrade	03-10405	$	2,025,277.82
	*FCC - Future WWTP Expansion	03-10407	$	1,543,771.07
	*FCC - Sewer Interceptors	03-10415	$	(733,961.48)
	*FCC - Lift Stations	03-10416	$	380,697.50
	*FCC - Effluent Disposal Facilities	03-10417	$	(1,565,343.91)
	*FCC - Salt Mitigation Facilities	03-10418	$	(8,790,380.51)
Operating	Project Fund - Encumbered	03-10215	$	276,000.00
	Depreciation Reserves	03-10310	$	3,838,209.50
	Infrastructure Reserves	03-10311	$	5,352,966.63
	Rate Stabilization Fund	03-10314	$	1,464,394.90
	Operating Funds:		$	2,227,690.00
		Total Wastewater Division	**$**	**6,912,484.52**

	Recycled Water Division	GL#		Balance
Restricted	*FCC - Recycled System	04-10410	$	72,385.42
	*FCC - Booster Pumping Plants	04-10411	$	9,604.74
	*FCC - Pipeline Facilities	04-10412	$	262,543.84
	*FCC - Water Storage Reservoirs	04-10413	$	262,964.41
Operating	Project Fund - Encumbered	04-10215	$	-
	Depreciation Reserves	04-10310	$	36,833.01
	Infrastructure Reserves	04-10311	$	278,742.31
	Operating Funds:		$	373,869.44
		Total Recycled Water Division	**$**	**1,296,943.17**

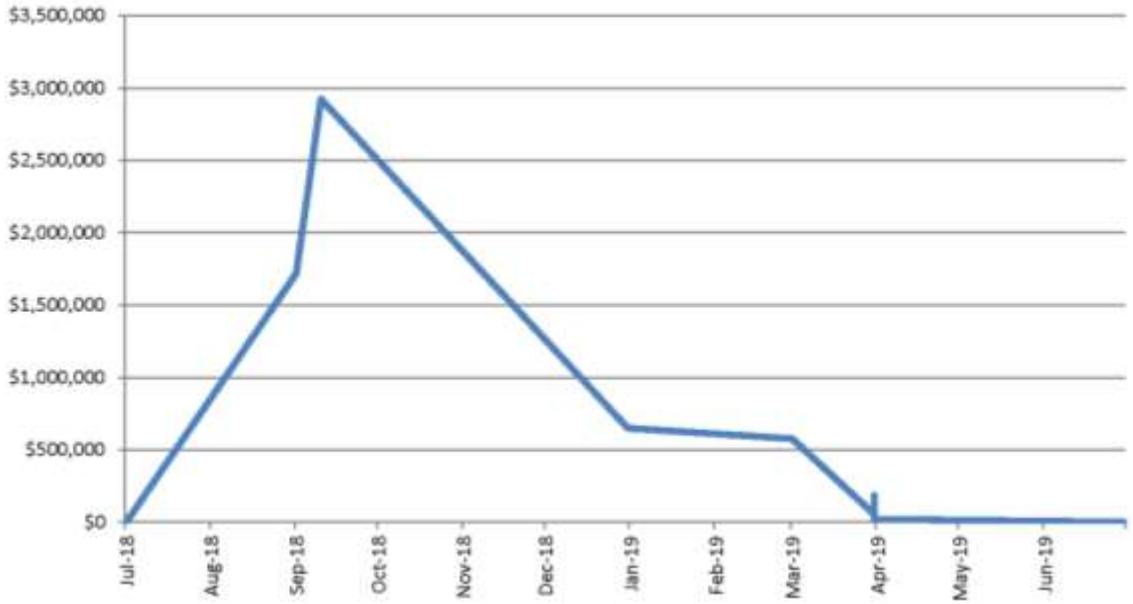
DISTRICT TOTAL	**$**	**13,306,490.47**

*=Restricted Funds

Cash Flow Report for Fiscal Year 2018-19

Financial Obligations for Fiscal Year 2018-19					
Due Date	Fund	Description	Term of Obligation		Amount
9/1/2018	Water	2015A Bond Payment - YVRWFF	2015-2034	$	1,718,806.25
9/10/2018	Sewer	SRF Payment - WRWRF	2009-2028	$	2,923,668.75
12/31/2018	Sewer	SRF Payment - Yucaipa Regional Brineline	2013-2032	$	649,273.50
3/1/2019	Water	2015A Bond Payment - YVRWFF	2015-2034	$	575,931.25
3/31/2019	Sewer	SRF Payment - Recycled Reservoir R-10.3	2014-2033	$	54,277.31
3/31/2019	Sewer	SRF Payment - Desalinization at WRWRF	2014-2033	$	185,251.30
3/31/2019	Sewer	SRF Payment - Crow Street/Recycled Booster B-12.1	2016-2035	$	21,247.48
			Total	**$**	**6,128,455.84**

Payment Schedule and Cash Flow Requirements for Fiscal Year 2018-19



Check Register - July 2018

Check Date	Check Number	Name	Check Amount
7/2/2018	32210	YARNALL, DONALD	$ 47.97
7/2/2018	32211	VALDEZ, GREG	$ 1,334.39
7/2/2018	32212	MCMAINS, KAYVON	$ 97.83
7/2/2018	32213	State Water Resources Control	$ 185.00
7/2/2018	32214	California Municipal Treasurer	$ 155.00
7/2/2018	32215	California Water Environment A	$ 180.00
7/2/2018	32216	Department of Motor Vehicles	$ 45.00
7/2/2018	32217	Ameripride Uniform Services	$ 1,051.15
7/2/2018	32218	Balco Holdings Inc.	$ 5,160.45
7/2/2018	32219	Cal's Towing	$ 50.00
7/2/2018	32220	Coverall North America, Inc.	$ 1,331.00
7/2/2018	32221	Crider Public Relations, Inc.	$ 1,020.00
7/2/2018	32222	Daily Journal Corporation	$ 745.80
7/2/2018	32223	First American Data Tree, LLC	$ 50.00
7/2/2018	32224	Evoqua Water Technologies LLC	$ 1,117.10
7/2/2018	32225	Incode Division-Tyler Technolo	$ 1,019.24
7/2/2018	32226	Inland Counties Insurance Serv	$ 211,774.00
7/2/2018	32227	Raiset R. Santana and Adriana	$ 49.25
7/2/2018	32228	Linko Technology Inc.	$ 4,800.00
7/2/2018	32229	Nagem, Inc. VOIDED	$ 127.50
7/2/2018	32230	NetComp Technologies,Inc.	$ 2,850.00
7/2/2018	32231	Office Solutions Business Prod	$ 2,198.82
7/2/2018	32232	Pacific Coast Landscape & Desi	$ 8,225.00
7/2/2018	32233	California Newspapers Partners	$ 847.80
7/2/2018	32234	Q Versa, LLC	$ 123,182.53
7/2/2018	32235	SB CNTY-Auditor/Controller	$ 20,000.00
7/2/2018	32236	South Coast A.Q.M.D.	$ 658.84
7/2/2018	32237	Spectrum Business	$ 1,834.00
7/2/2018	32238	Tattletale Portable Alarm Syst	$ 3,105.00
7/2/2018	32239	The Gas Company	$ 32.77
7/2/2018	32240	Armorcast Products Company	$ 18,247.47
7/2/2018	32241	Atlas Copco Compressors, LLC	$ 2,124.67
7/2/2018	32242	Brenntag Pacific, Inc	$ 6,728.37
7/2/2018	32243	Harrington Ind. Plastic, LLC	$ 327.03
7/2/2018	32244	Hasa, Inc.	$ 7,604.83
7/2/2018	32245	Nuckles Oil Company, Inc.	$ 3,532.96
7/2/2018	32246	Ryan Herco Products Corp	$ 305.29
7/2/2018	32247	Kenneth Carnes	$ 561.81
7/2/2018	32248	Nagem, Inc.	$ 127.50
7/2/2018	32249	Q Versa, LLC	$ 15,900.00
7/2/2018	32250	Separation Processes, Inc.	$ 212.00
7/2/2018	32251	The Counseling Team Internatio	$ 180.00
7/2/2018	32252	Matthew Flordelis	$ 117.55
7/2/2018	32253	Jacob Duncan	$ 100.00
7/6/2018	32254	Joe DeSalliers	$ 646.39

Check Register - July 2018

Check Date	Check Number	Name		Check Amount
7/6/2018	32255	Rodd Greene	$	648.15
7/6/2018	32256	Linda Kilday	$	646.39
7/6/2018	32257	Dennis Neff	$	599.99
7/6/2018	32258	Standard Insurance Company	$	1,764.72
7/6/2018	32259	Robert Wall	$	599.99
7/6/2018	32260	Charlie Bailey	$	629.40
7/6/2018	32261	Standard Insurance Vision Plan	$	639.32
7/6/2018	32262	MetLife Small Business Center	$	147.22
7/6/2018	32263	Blue Shield of California	$	1,911.40
7/6/2018	32264	Jamie Underwood	$	300.00
7/6/2018	32265	PAYROLL CHECK	$	2,523.80
7/6/2018	32266	PAYROLL CHECK	$	310.43
7/6/2018	32267	WageWorks, Inc.	$	1,381.51
7/6/2018	32268	IBEW Local 1436	$	667.00
7/6/2018	32269	California State Disbursement	$	115.38
7/6/2018	32270	California State Disbursement	$	397.38
7/6/2018	32271	Department of the Treasury - I	$	50.00
7/9/2018	32272	Ameripride Uniform Services	$	938.90
7/9/2018	32273	Burgeson's Heating & Air Cond.	$	99.00
7/9/2018	32274	CDW LLC	$	1,157.88
7/9/2018	32275	Victor James Valenti	$	4,075.36
7/9/2018	32276	Dinosaur Tire Inc.	$	257.35
7/9/2018	32277	Frontier Communications	$	148.41
7/9/2018	32278	Inland Empire Resource Conserv	$	2,377.92
7/9/2018	32279	Innerline Engineering	$	1,750.00
7/9/2018	32280	Office Solutions Business Prod	$	278.42
7/9/2018	32281	Ryan Herco Products Corp	$	86.14
7/9/2018	32282	SCCI, Inc.	$	350.00
7/9/2018	32283	Underground Service Alert Of S	$	387.85
7/9/2018	32284	Westrux International, Inc.	$	741.44
7/9/2018	32285	Yucaipa Disposal, Inc.	$	1,448.57
7/9/2018	32286	Yucaipa Valley Water District	$	12,148.34
7/9/2018	32287	Charles P. Crowley Company, In	$	845.72
7/9/2018	32288	Grainger	$	1,775.43
7/9/2018	32289	Hemet Valley Tool Inc.	$	187.49
7/9/2018	32290	CANDELARIA, THOMAS	$	14.34
7/9/2018	32291	CWEA-TCP (OAKPORT ST.)	$	100.00
7/9/2018	32292	California Water Efficiency Pa	$	3,268.86
7/9/2018	32293	State Water Resources Control	$	150.00
7/9/2018	32294	James Rowell	$	190.00
7/9/2018	32295	Ward & Ward	$	1,680.00
7/9/2018	32296	Lina Robert	$	44.95
7/9/2018	32297	Berkshire Hathaway Homestate C	$	11,243.89
7/9/2018	32298	Nippon Life Insurance Co. of A	$	2,618.34
7/9/2018	32299	Doug Earnest	$	14.69

Check Register - July 2018

Check Date	Check Number	Name	Check Amount
7/16/2018	32300	Santa Ana Watershed Project Au	$ 13,712.00
7/16/2018	32301	Water Environment Federation	$ 255.00
7/16/2018	32302	Christopher R. Crosby	$ 90.00
7/16/2018	32303	Kelly Hamilton	$ 163.53
7/16/2018	32304	Delta Partners, LLC	$ 7,500.00
7/16/2018	32305	Dudek & Associates, Inc	$ 20,610.85
7/16/2018	32306	HDR Engineering, Inc.	$ 3,511.92
7/16/2018	32307	One Stop Landscape Supply Inc	$ 19,630.00
7/16/2018	32308	Pacific Coast Landscape & Desi	$ 39,131.80
7/16/2018	32309	Pascal & Ludwig Constructors I	$ 29,032.00
7/16/2018	32310	Platinum Advisors, LLC	$ 5,125.00
7/16/2018	32311	Superior Tank Solutions, Inc.	$ 56,539.50
7/16/2018	32312	David L. Wysocki	$ 3,150.00
7/16/2018	32313	Luke's Transmission Inc.	$ 380.71
7/16/2018	32314	Ameripride Uniform Services	$ 859.17
7/16/2018	32315	John F. Simister	$ 1,543.73
7/16/2018	32316	Best Home Center	$ 133.43
7/16/2018	32317	California Department of Fish	$ 2,170.50
7/16/2018	32318	Center Electric Services, Inc.	$ 4,897.72
7/16/2018	32319	Central Communications	$ 498.25
7/16/2018	32320	Cliff's Pest Control, Inc.	$ 115.00
7/16/2018	32321	Clinical Laboratory of San Ber	$ 12,151.00
7/16/2018	32322	Corelogic, Inc.	$ 330.00
7/16/2018	32323	Dudek & Associates, Inc	$ 2,380.00
7/16/2018	32324	Evoqua Water Technologies LLC	$ 2,230.61
7/16/2018	32325	Fedex	$ 96.67
7/16/2018	32326	Fuel Equipment Services, Inc.	$ 1,467.47
7/16/2018	32327	Incode Division-Tyler Technolo	$ 5,391.40
7/16/2018	32328	InfoSend, Inc.	$ 5,311.04
7/16/2018	32329	Innerline Engineering	$ 1,750.00
7/16/2018	32330	Konica Minolta Business Soluti	$ 1,128.02
7/16/2018	32331	MailFinance Inc.	$ 706.14
7/16/2018	32332	Nagem, Inc.	$ 2,890.00
7/16/2018	32333	Northrop Gruman-IS	$ 4,260.44
7/16/2018	32334	Pacific Coast Landscape & Desi	$ 4,160.00
7/16/2018	32335	Red Alert Special Couriers	$ 344.26
7/16/2018	32336	San Gorgonio Pass Water Agency	$ 26,104.32
7/16/2018	32337	Separation Processes, Inc.	$ 2,040.00
7/16/2018	32338	Association of San Bernardino	$ 32.00
7/16/2018	32339	Spectrum Business	$ 2,650.50
7/16/2018	32340	Tri County Pump Company	$ 2,351.98
7/16/2018	32341	Brenntag Pacific, Inc	$ 11,854.68
7/16/2018	32342	Emergency Power Controls, Inc.	$ 6,874.21
7/16/2018	32343	Fastenal Company	$ 148.57
7/16/2018	32344	Inland Water Works Supply Co.	$ 14,412.37

Check Register - July 2018

Check Date	Check Number	Name	Check Amount
7/16/2018	32345	Nuckles Oil Company, Inc.	$ 6,783.37
7/16/2018	32346	Polydyne Inc.	$ 2,949.12
7/16/2018	32347	Hadronex, Inc.	$ 18,897.26
7/16/2018	32348	Uline, Inc.	$ 2,822.47
7/16/2018	32349	Wells Tapping Service, Inc	$ 6,000.00
7/16/2018	32350	YSI Incorporated	$ 188.56
7/16/2018	32351	CWEA-TCP (OAKPORT ST.)	$ 92.00
7/16/2018	32352	CWEA-TCP (OAKPORT ST.)	$ 92.00
7/20/2018	32353	PAYROLL CHECK	$ 2,299.63
7/20/2018	32354	WageWorks, Inc.	$ 1,381.51
7/20/2018	32355	California State Disbursement	$ 115.38
7/20/2018	32356	California State Disbursement	$ 397.38
7/20/2018	32357	Department of the Treasury - I	$ 50.00
7/23/2018	32358	LUPU, COSTICA	$ 15.90
7/23/2018	32359	STANLEY, SARAH	$ 15.52
7/23/2018	32360	Addiction Medicine Consultants	$ 60.00
7/23/2018	32361	Matthew M. Barlow	$ 546.01
7/23/2018	32362	Ameripride Uniform Services	$ 754.66
7/23/2018	32363	Amiad USA, Inc.	$ 18,197.58
7/23/2018	32364	AT&T Mobility	$ 1,540.67
7/23/2018	32365	Burgeson's Heating & Air Cond.	$ 99.00
7/23/2018	32366	Charles Wayne Hippenstiel	$ 3,360.00
7/23/2018	32367	Computerized Embroidery Compan	$ 1,553.76
7/23/2018	32368	DC Frost Associates, Inc.	$ 4,884.34
7/23/2018	32369	Frontier Communications	$ 149.79
7/23/2018	32370	Fuel Equipment Services, Inc.	$ 7,160.00
7/23/2018	32371	InfoSend, Inc.	$ 3,566.82
7/23/2018	32372	James Apacible	$ 3,494.99
7/23/2018	32373	JB Paving & Engineering, Inc.	$ 3,480.00
7/23/2018	32374	Krieger & Stewart	$ 76,145.88
7/23/2018	32375	NetComp Technologies,Inc.	$ 3,550.00
7/23/2018	32376	Office Solutions Business Prod	$ 73.13
7/23/2018	32377	Pro-Pipe & Supply, Inc.	$ 11.31
7/23/2018	32378	SCE Rosemead	$ 285,718.00
7/23/2018	32379	Smarthire	$ 241.80
7/23/2018	32380	South Coast A.Q.M.D.	$ 538.58
7/23/2018	32381	Spectrum Business	$ 2,445.46
7/23/2018	32382	Terminix Commercial	$ 582.00
7/23/2018	32383	Campbell Contracting Inc.	$ 510.00
7/23/2018	32384	YSI Incorporated	$ 31.84
7/23/2018	32385	Marianne McVey	$ 1,745.88
7/23/2018	32386	Armorcast Products Company	$ 35,950.79
7/23/2018	32387	Brenntag Pacific, Inc	$ 21,010.12
7/23/2018	32388	Air Pacific Compressors, Inc.	$ 420.00
7/23/2018	32389	Fisher Scientific Co.	$ 1,243.44

Check Register - July 2018

Check Date	Check Number	Name		Check Amount
7/23/2018	32390	Hasa, Inc.	$	3,873.08
7/23/2018	32391	Inland Water Works Supply Co.	$	11,852.50
7/23/2018	32392	Nuckles Oil Company, Inc.	$	3,188.28
7/23/2018	32393	Nalco Company	$	10,328.10
7/23/2018	32394	National Business Furniture LL	$	2,166.10
7/23/2018	32395	NCL Of Wisconsin Inc	$	1,234.12
7/23/2018	32396	Schaner's WasteWater Prod., In	$	2,586.15
7/23/2018	32397	VSS Sales, Inc.	$	2,945.37
7/23/2018	32398	Calmat Company	$	5,198.09
7/23/2018	32399	American Family Life Assurance	$	3,380.52
7/23/2018	32400	Joan Cadiz	$	603.36
7/23/2018	32401	Cobb's Printing, LLC	$	201.49
7/23/2018	32402	Joe DeSalliers	$	646.39
7/23/2018	32403	Ronald Elisalda	$	454.57
7/23/2018	32404	Rodd Greene	$	648.15
7/23/2018	32405	Dennis Neff	$	599.99
7/23/2018	32406	Robert Wall	$	599.99
7/23/2018	32407	Western Dental Services, Inc.	$	203.54
7/23/2018	32408	MetLife Small Business Center	$	147.22
7/23/2018	32409	WageWorks, Inc.	$	207.50
7/23/2018	32410	Ashley Gibson	$	329.47
7/23/2018	32411	Dustin Hochreiter	$	418.59
7/23/2018	32412	Allison Edmisten	$	88.87
			$	**1,404,885.86**
7/6/2018	electronic pmt	IRS - PAYROLL TAXES	$	57,080.62
7/6/2018	electronic pmt	CA-EDD	$	9,976.27
7/6/2018	electronic pmt	VOYA-457	$	6,114.27
7/6/2018	electronic pmt	CalPERS - HEALTH	$	72,480.51
7/6/2018	electronic pmt	CA-PERS Supplemental Income 45	$	24,890.20
7/6/2018	electronic pmt	Public Employees' Retirement S	$	28,148.77
7/9/2018	electronic pmt	Public Employees' Retirement S	$	512,816.00
7/20/2018	electronic pmt	IRS - PAYROLL TAXES	$	56,969.72
7/20/2018	electronic pmt	CA-EDD	$	10,418.64
7/20/2018	electronic pmt	VOYA-457	$	4,834.67
7/20/2018	electronic pmt	CA-PERS Supplemental Income 45	$	22,705.12
7/20/2018	electronic pmt	Public Employees' Retirement S	$	29,229.25
7/23/2018	electronic pmt	CalPERS - HEALTH	$	101,157.13
			$	**936,821.17**

Investment Summary - July 2018

U.S. TREASURIES

Quantity	Description	Cusip	Maturity Date	Yield	Cost of Purchase	Market Value
500,000	US Treasury Bill	912796PQ6	July 12, 2018	0.330%	$ 496,612.76	$ 509,968.85
500,000			**Total Values**		**$ 496,612.76**	**$ 509,968.85**

Money Market Account Activity-Beginning Balance		**$ 506,813.94**
7/31/17 - Bond Interest	$	-
Dividend/Interest	$	2.67
Business Account Fee	$	-
Income	**$**	**2.67**
Intra-Bank Transfers to/from Investment Checking	$	-
Fund Transfers	**$**	**-**
Cusip Maturity	$	-
Redemptions	**$**	**-**
Cusip Purchase	$	(496,612.76)
Purchases	**$**	**(496,612.76)**
Ending Balance - Money Market	**$**	**10,203.85**
US Treasury Securities Investment Principal	**$**	**496,612.76**
Total Assets	**$**	**506,816.61**

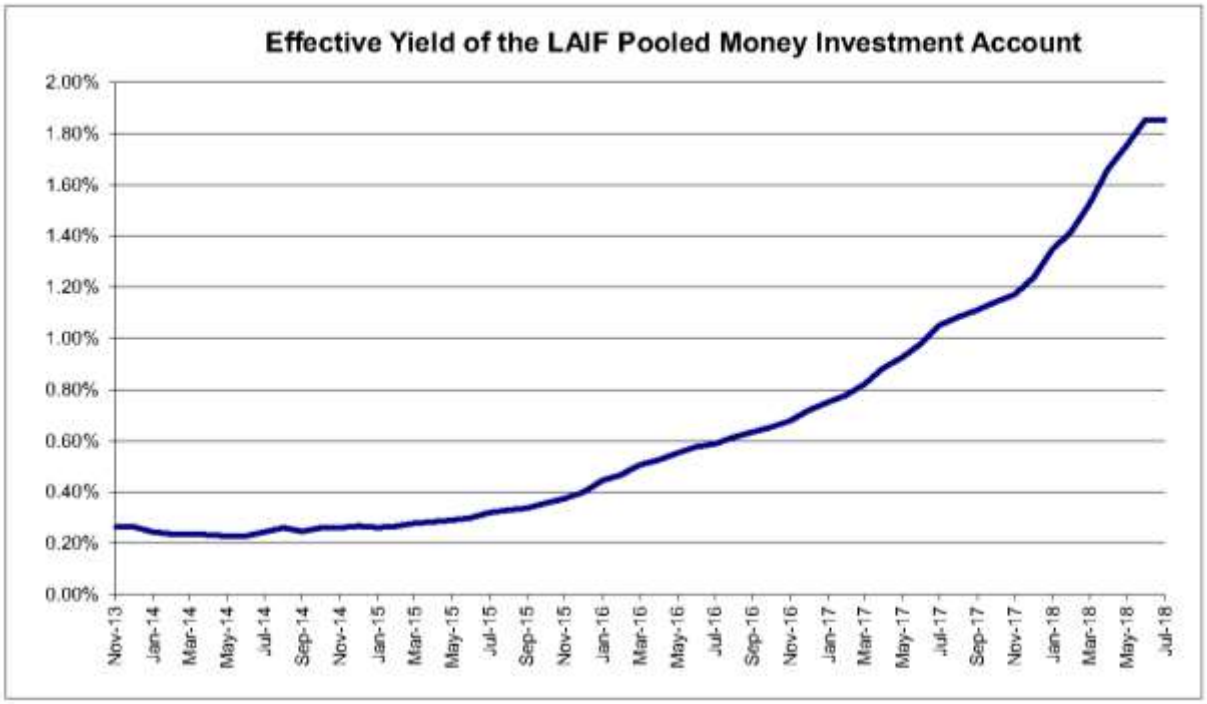
Note: As of 8/3/18, the updated treasury information for July has not been received. The information above is as of 6/30/18.

Investment Summary - July 2018

LOCAL AGENCY INVESTMENT FUND

PERIOD	TOTAL WITHDRAWAL AMOUNT	TOTAL DEPOSIT AMOUNT	ACCRUED INTEREST (QUARTERLY)	ENDING BALANCE
July 31, 2018	$ -	$ -	$ 50,409.17	$ 10,674,082.68
August 31, 2018	$ -	$ -	$ -	$ 10,674,082.68
September 30, 2018	$ -	$ -	$ -	$ 10,674,082.68
October 31, 2018	$ -	$ -	$ -	$ 10,674,082.68
November 30, 2018	$ -	$ -	$ -	$ 10,674,082.68
December 31, 2018	$ -	$ -	$ -	$ 10,674,082.68
January 31, 2019	$ -	$ -	$ -	$ 10,674,082.68
February 28, 2019	$ -	$ -	$ -	$ 10,674,082.68
March 31, 2019	$ -	$ -	$ -	$ 10,674,082.68
April 30, 2019	$ -	$ -	$ -	$ 10,674,082.68
May 31, 2019	$ -	$ -	$ -	$ 10,674,082.68
June 30, 2019	$ -	$ -	$ -	$ 10,674,082.68

L.A.I.F. INCOME SUMMARY	CURRENT QUARTER	FY YEAR-TO-DATE
INCOME RECEIVED	$ 50,409.17	$ 50,409.17



FY 2018-19 Water Revenue					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
02-40010	Sales - Water	$ 5,958,445	$ 567,275	$ 567,275	9.52%
02-40011	Sales - Construction Water	$ 25,000	$ 3,323	$ 3,323	13.29%
02-40012	Sales - Imported Water (SGPWA)	$ 250,000	$ 23,505	$ 23,505	9.40%
02-40013	Sales - Imported Water (MUNI)	$ 850,000	$ 77,891	$ 77,891	9.16%
02-40014	Sales Disc.-Multi Units Usage Chrg.	$ (110,000)	$ (8,989)	$ (8,989)	8.17%
02-40015	Water Wholesale Revenue	$ 200,000	$ 9,955	$ 9,955	4.98%
02-40016	Service Establishment Fee	$ 5,000	$ 425	$ 425	8.50%
02-41000	Service Demand Charges	$ 3,400,000	$ 264,172	$ 264,172	7.77%
02-41001	Fire Service Standby Fees	$ 45,000	$ 2,899	$ 2,899	6.44%
02-41003	Construction Service Charge	$ 15,000	$ 237	$ 237	1.58%
02-41005	Sales Disc-Multi Units Service Chrg.	$ (135,000)	$ (11,145)	$ (11,145)	8.26%
02-41010	Unauthorized Use of Water Charge	$ 2,000	$ -	$ -	0.00%
02-41110	Meter/Lateral installation	$ 50,000	$ 13,760	$ 13,760	27.52%
02-41112	Fire Flow Test Fees	$ 4,500	$ 225	$ 225	5.00%
02-41113	Disconnect/Reconnect Fees	$ 100,000	$ 4,425	$ 4,425	4.43%
02-41121	Penalty - Late Charges	$ 135,000	$ 10,327	$ 10,327	7.65%
02-41124	Bad Debt	$ (20,000)	$ 335	$ 335	-1.68%
02-42123	Management & Accounting Fees	$ 202,500	$ 16,875	$ 16,875	8.33%
02-43010	Interest Earned	$ 85,000	$ 22,684	$ 22,684	26.69%
02-43110	Property Tax - Unsecured	$ 80,000	$ -	$ -	0.00%
02-43120	Property Tax - Secured	$ 2,700,000	$ -	$ -	0.00%
02-43130	Tax Collection - Prior	$ 25,000	$ -	$ -	0.00%
02-43140	Other Taxes	$ 180,000	$ -	$ -	0.00%
02-49110	Rental Income (WATER STOCK)	$ 3,000	$ -	$ -	0.00%
02-49150	Revenue - Misc. Non-Operating	$ 100,000	$ 7,127	$ 7,127	7.13%
	WATER OPERATING REVENUE	**$ 14,150,445**	**$ 1,005,306**	**$ 1,005,306**	**7.10%**
	Grants	$ -	$ -	$ -	
02-89901	Facility Capacity Charges	$ -	$ 88,304	$ 88,304	
02-89902	Sustainability	$ -	$ 36,771	$ 36,771	
	TOTAL WATER REVENUE	**$ 14,150,445**	**$ 1,130,381**	**$ 1,130,381**	

NOTE: Plan check & inspection fees to 02-42122

FY 2018-19 Sewer Revenue					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
03-40016	Sales - Establish Service Fee	$ 500	$ -	$ -	0.00%
03-41000	Sales - Sewer Charges	$ 12,116,254	$ 963,892	$ 963,892	7.96%
03-41005	Sales Disc-Multi Units Service Chrg.	$ (200,000)	$ (18,064)	$ (18,064)	9.03%
03-41110	Meter/Lateral Installation	$ 2,500	$ -	$ -	0.00%
03-41121	Penalty - Late Charges	$ 135,000	$ 12,105	$ 12,105	8.97%
03-41124	Bad Debt	$ (15,000)	$ -	$ -	0.00%
03-41131	Front Footage Fees	$ 30,000	$ -	$ -	0.00%
03-42122	Revenue - Other Operating	$ 2,000	$ -	$ -	0.00%
03-43010	Interest Earned	$ 95,000	$ 22,684	$ 22,684	23.88%
03-43110	Property Tax - Unsecured	$ 50,000	$ -	$ -	0.00%
03-43120	Property Tax - Secured	$ 100,000	$ -	$ -	0.00%
03-43130	Tax Collection - Prior	$ 10,000	$ -	$ -	0.00%
03-43140	Other Taxes	$ 1,500	$ -	$ -	0.00%
03-49150	Misc. Non-Oper Revenue	$ 10,000	$ -	$ -	0.00%
	SEWER OPERATING REVENUE	**$ 12,337,754**	**$ 980,617**	**$ 980,617**	**7.95%**
	Grants	$ -	$ -	$ -	
03-89901	Facility Capacity Charges	$ -	$ 131,536	$ 131,536	
03-89903	Contrib Capital-Front Footage Fees	$ -	$ -	$ -	
03-89905	Contrib Capital-Infrastructure	$ -	$ -	$ -	
	TOTAL SEWER REVENUE	**$ 12,337,754**	**$ 1,112,153**	**$ 1,112,153**	

FY 2018-19 Recycled Revenue					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
04-40010	Sales - Recycled Water	$ 694,270	$ 44,875	$ 44,875	6.46%
04-40011	Sales - Construction Water	$ 65,000	$ 824	$ 824	1.27%
04-41000	Sales - Service Demand Chrg.	$ 85,000	$ 5,795	$ 5,795	6.82%
04-41003	Const. Water Minimum Chrg.	$ 5,000	$ 51	$ 51	1.02%
04-41110	Meter/Lateral installation	$ 45,000	$ -	$ -	0.00%
04-41121	Penalty - Late Charges	$ 5,000	$ 522	$ 522	10.44%
04-41122	Revenue - Other Operating	$ 500	$ -	$ -	0.00%
04-43010	Interest Earned	$ 20,000	$ 5,041	$ 5,041	25.20%
04-43110	Property Tax - Unsecured	$ 10,000	$ -	$ -	0.00%
04-43120	Property Tax - Secured	$ 350,000	$ -	$ -	0.00%
04-43130	Property Tax - Prior	$ 10,000	$ -	$ -	0.00%
04-43140	Property Tax - Other	$ 2,500	$ -	$ -	0.00%
04-49150	Misc. Non-Operating Revenue	$ 1,000	$ -	$ -	0.00%
	RECYCLED OPERATING REVENUE	**$ 1,293,270**	**$ 57,108**	**$ 57,108**	**4.42%**
	Grants	$ -	$ -	$ -	
04-89901	Facility Capacity Charges	$ -	$ -	$ -	
	TOTAL RECYCLED REVENUE	**$ 1,293,270**	**$ 57,108**	**$ 57,108**	

FY 2018-19 Water Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
02-5-01-50010	Labor-Water Resources	$ 997,976	$ 76,055	$ 76,055	7.62%
02-5-01-50011	Labor Credit	$ -	$ -	$ -	
02-5-01-50013	Benefits-Fica	$ 76,345	$ 6,001	$ 6,001	7.86%
02-5-01-50014	Benefits-Life Insurance	$ 5,568	$ 132	$ 132	2.38%
02-5-01-50016	Benefits-Health\Defrd Comp	$ 218,544	$ 16,343	$ 16,343	7.48%
02-5-01-50017	Benefits-Disability Insurance	$ 8,982	$ 1,104	$ 1,104	12.30%
02-5-01-50019	Benefits-Workers Compensation	$ 26,945	$ -	$ -	0.00%
02-5-01-50021	Benefits-PERS-Employee	$ -	$ (335)	$ (335)	
02-5-01-50022	Benefits-PERS-Employer	$ 149,696	$ 5,169	$ 5,169	3.45%
02-5-01-50023	Benefits-Uniforms	$ 5,800	$ 269	$ 269	4.64%
02-5-01-50024	Benefits-Vacation & Sick Pay	$ 6,001	$ 551	$ 551	9.19%
02-5-01-50025	Benefits-Boot Allowance	$ 3,480	$ 900	$ 900	25.86%
02-5-01-51003	R&M - Structures	$ 319,000	$ 6,037	$ 6,037	1.89%
02-5-01-51011	R&M - CLA Valves	$ 20,000	$ -	$ -	0.00%
02-5-01-51140	General Supplies & Expenses	$ 2,000	$ -	$ -	0.00%
02-5-01-51210	Utilities - Power Purchases	$ 1,394,000	$ 74,921	$ 74,921	5.37%
02-5-01-51211	Utilities - Electricity & Fuel	$ 5,000	$ 212	$ 212	4.25%
02-5-01-51316	Imported Water Purchases	$ 1,200,000	$ -	$ -	0.00%
02-5-01-54019	Licenses & Permits	$ 70,000	$ -	$ -	0.00%
02-5-01-54110	Laboratory Services	$ 65,000	$ -	$ -	0.00%
02-5-01-57040	YVRWFF Operating Expense	$ 700,000	$ 60,934	$ 60,934	8.70%
	WATER RESOURCE TOTALS	**$ 5,274,337**	**$ 248,295**	**$ 248,295**	**4.71%**
02-5-03-50010	Labor-Public Works	$ 1,650,107	$ 104,719	$ 104,719	6.35%
02-5-03-50011	Labor Credit	$ -	$ (354)	$ (354)	
02-5-03-50013	Benefits-Fica	$ 126,443	$ 8,195	$ 8,195	6.48%
02-5-03-50014	Benefits-Life Insurance	$ 10,776	$ 170	$ 170	1.58%
02-5-03-50016	Benefits-Health\Defrd Comp	$ 422,958	$ 27,669	$ 27,669	6.54%
02-5-03-50017	Benefits-Disability Insurance	$ 14,851	$ 1,435	$ 1,435	9.66%
02-5-03-50019	Benefits-Workers Compensation	$ 44,553	$ -	$ -	0.00%
02-5-03-50021	Benefits-PERS Employee	$ -	$ (897)	$ (897)	
02-5-03-50022	Benefits-PERS Employer	$ 247,516	$ 6,982	$ 6,982	2.82%
02-5-03-50023	Benefits-Uniforms	$ 11,225	$ 1,950	$ 1,950	17.37%
02-5-03-50024	Benefits-Vacation & Sick Pay	$ 4,000	$ 457	$ 457	11.43%
02-5-03-50025	Benefits-Boot Allowance	$ 6,525	$ 6,900	$ 6,900	105.75%
02-5-03-51001	R & M -Vehicles & Equipment	$ 200,000	$ 16,996	$ 16,996	8.50%
02-5-03-51011	R&M - Valves	$ 10,000	$ -	$ -	0.00%
02-5-03-51020	R&M - Pipelines	$ 225,000	$ 14,386	$ 14,386	6.39%
02-5-03-51021	R&M - Service Lines	$ 96,000	$ 629	$ 629	0.65%
02-5-03-51022	R&M - Fire Hydrants	$ 25,000	$ 194	$ 194	0.78%
02-5-03-51029	R&M - Backflow	$ 20,000	$ 566	$ 566	2.83%
02-5-03-51030	R&M - Water Meters	$ 30,000	$ 45,283	$ 45,283	150.94%
02-5-03-51031	Fire Flow Testing	$ 30,000	$ -	$ -	0.00%
02-5-03-51092	Equipment Credits	$ -	$ (306)	$ (306)	
02-5-03-51140	General Supplies & Expenses	$ 2,500	$ 130	$ 130	5.19%
	PUBLIC WORKS TOTALS	**$ 3,177,454**	**$ 235,103**	**$ 235,103**	**7.40%**

FY 2018-19 Water Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
02-5-06-50010	Labor-Administration	$ 602,359	$ 60,172	$ 60,172	9.99%
02-5-06-50011	Labor Credit	$ -	$ -	$ -	
02-5-06-50012	Director Fees	$ 25,000	$ 2,474	$ 2,474	9.90%
02-5-06-50013	Benefits-Fica	$ 46,080	$ 5,173	$ 5,173	11.23%
02-5-06-50014	Benefits-Life Insurance	$ 2,952	$ 142	$ 142	4.80%
02-5-06-50016	Benefits-Health\Defrd Comp	$ 115,866	$ 19,125	$ 19,125	16.51%
02-5-06-50017	Benefits-Disability Insurance	$ 5,421	$ 954	$ 954	17.59%
02-5-06-50019	Benefits-Workers Compensation	$ 16,264	$ -	$ -	0.00%
02-5-06-50021	Benefits PERS Employee	$ -	$ (233)	$ (233)	
02-5-06-50022	Benefits PERS Employer	$ 90,354	$ 4,552	$ 4,552	5.04%
02-5-06-50023	Uniforms	$ 3,075	$ 154	$ 154	5.00%
02-5-06-50024	Benefits-Vacation & Sick Pay	$ 10,000	$ 311	$ 311	3.11%
02-5-06-50025	Benefits-Boots	$ 1,845	$ 3,300	$ 3,300	178.86%
02-5-06-51003	R&M - Structures	$ 30,000	$ 4,679	$ 4,679	15.60%
02-5-06-51091	Expense Credits (overhead)	$ -	$ (246)	$ (246)	
02-5-06-51120	Safety Equipment/Supplies	$ 25,000	$ 1,745	$ 1,745	6.98%
02-5-06-51125	Petroleum Products	$ 105,000	$ 12,702	$ 12,702	12.10%
02-5-06-51130	Office Supplies & Expenses	$ 35,000	$ 2,397	$ 2,397	6.85%
02-5-06-51140	General Supplies & Expenses	$ 35,000	$ 6,417	$ 6,417	18.34%
02-5-06-51199	Disaster Incidences	$ -	$ -	$ -	
02-5-06-51211	Utilities - Electricity	$ 65,000	$ 2,586	$ 2,586	3.98%
02-5-06-51213	Utilities - Natural Gas	$ 1,500	$ -	$ -	0.00%
02-5-06-54002	Dues & Subscriptions	$ 41,500	$ 3,339	$ 3,339	8.04%
02-5-06-54005	Computer Expenses	$ 100,000	$ 3,152	$ 3,152	3.15%
02-5-06-54010	Postage	$ 4,200	$ 187	$ 187	4.46%
02-5-06-54011	Printing & Publications	$ -	$ 101	$ 101	
02-5-06-54012	Education & Training	$ 15,000	$ 3,429	$ 3,429	22.86%
02-5-06-54013	Utility Billing Expenses	$ 150,000	$ 8,778	$ 8,778	5.85%
02-5-06-54014	Public Relations	$ 25,000	$ -	$ -	0.00%
02-5-06-54016	Travel Related Expenses	$ 8,000	$ 1,428	$ 1,428	17.86%
02-5-06-54017	Certifications & Renewals	$ 8,000	$ 822	$ 822	10.28%
02-5-06-54020	Meeting Related Expenses	$ 8,000	$ 770	$ 770	9.62%
02-5-06-54022	Utilities - YVWD Services	$ 60,000	$ -	$ -	0.00%
02-5-06-54024	Utilities - Waste Disposal	$ 2,500	$ 222	$ 222	8.89%
02-5-06-54025	Utilities - Telephone & Internet	$ 45,000	$ 3,197	$ 3,197	7.11%
02-5-06-54099	Conservation & Rebates	$ 30,000	$ -	$ -	0.00%
02-5-06-54104	Contractual Services	$ 100,000	$ 16,694	$ 16,694	16.69%
02-5-06-54107	Legal	$ 50,000	$ -	$ -	0.00%
02-5-06-54108	Audit & Accounting	$ 12,000	$ -	$ -	0.00%
02-5-06-54109	Professional Fees	$ 165,000	$ 16,962	$ 16,962	10.28%
02-5-06-55500	Depreciation Reserves	$ 200,000	$ 16,667	$ 16,667	8.33%
	Infrastructure Replacement	$ 1,000,000	$ 83,333	$ 83,333	8.33%
02-5-06-56001	Insurance	$ 100,000	$ 9,687	$ 9,687	9.69%
02-5-06-57030	Regulatory Compliance	$ 15,000	$ 1,810	$ 1,810	12.07%
02-5-06-57090	Election Related Expenses	$ 5,000	$ -	$ -	
02-5-06-57096	Beaumont Basin Watermaster	$ 44,000	$ -	$ -	0.00%
02-5-06-57199	Suspense	$ -	$ -	$ -	

FY 2018-19 Water Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
	ADMINISTRATION TOTALS	**$ 3,403,916**	**$ 296,984**	**$ 296,984**	**8.72%**
02-5-40-57201	Debt Srv-Series 2015A Princ.(2500	$ 1,115,000	$ -	$ -	0.00%
02-5-40-57402	Interest-Long-Term Debt Bonds	$ 1,179,738	$ -	$ -	0.00%
	40 - Debt	**$ 2,294,738**	**$ -**	**$ -**	**0.00%**
02-5-40-57001	Asset Acq. - Water Resources	$ -	$ -	$ -	--
02-5-40-57003	Asset Acq. - Public works	$ -	$ -	$ -	--
02-5-40-57006	Asset Acq. - Admin (fuel master)	$ -	$ -	$ -	--
	40 - Capital Outlay	**$ -**	**$ -**	**$ -**	**--**
				$ *780,381*	
	TOTAL WATER EXPENSES	**$ 14,150,445**	**$ 780,381**	**$ 780,381**	**5.51%**

FY 2018-19 Sewer Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
03-5-02-50010	Labor-S Treatment	$ 1,170,711	$ 79,901	$ 79,901	6.83%
03-5-02-50013	Benefits-Fica	$ 89,559	$ 6,207	$ 6,207	6.93%
03-5-02-50014	Benefits-Life Insurance	$ 6,336	$ 135	$ 135	2.14%
03-5-02-50016	Benefits-Health\Defrd Comp	$ 248,688	$ 15,364	$ 15,364	6.18%
03-5-02-50017	Benefits-Disability Insurance	$ 10,536	$ 1,123	$ 1,123	10.66%
03-5-02-50019	Benefits-Workers Compensation	$ 31,609	$ -	$ -	0.00%
03-5-02-50021	Benefits-PERS Employee	$ -	$ (335)	$ (335)	
03-5-02-50022	Benefits-PERS Employer	$ 175,607	$ 5,225	$ 5,225	2.98%
03-5-02-50023	Benefits-Uniforms	$ 6,600	$ 310	$ 310	4.70%
03-5-02-50024	Benefits-Vacation & Sick Pay	$ 5,001	$ 551	$ 551	11.03%
03-5-02-50025	Benefits-Boot Allowance	$ 3,960	$ 5,400	$ 5,400	136.36%
03-5-02-51003	R&M - Structures	$ 300,000	$ 8,812	$ 8,812	2.94%
03-5-02-51010	R&M - Automation Control	$ 70,000	$ 4,884	$ 4,884	6.98%
03-5-02-51106	Chemicals	$ 600,000	$ 59,870	$ 59,870	9.98%
03-5-02-51111	Propane	$ 1,000	$ -	$ -	0.00%
03-5-02-51115	Laboratory Supplies	$ 35,000	$ 2,616	$ 2,616	7.48%
03-5-02-51140	General Supplies & Expenses	$ 2,000	$ 97	$ 97	4.84%
03-5-02-51210	Utilities - Power Purchases	$ 800,000	$ 58,617	$ 58,617	7.33%
03-5-02-54110	Laboratory Services	$ 85,000	$ 493	$ 493	0.58%
03-5-02-57031	Sludge Disposal	$ 230,000	$ -	$ -	0.00%
03-5-02-57034	Brine Operating Expenses	$ 385,000	$ 1,884	$ 1,884	0.49%
	TREATMENT TOTALS	**$ 4,256,607**	**$ 251,156**	**$ 251,156**	**5.90%**
03-5-06-50010	Labor-Administration	$ 602,359	$ 50,130	$ 50,130	8.32%
03-5-06-50011	Labor Credit	$ -	$ -	$ -	
03-5-06-50012	Directors Fees	$ 25,000	$ 2,474	$ 2,474	9.90%
03-5-06-50013	Benefits-Fica	$ 46,080	$ 4,384	$ 4,384	9.51%
03-5-06-50014	Benefits-Life Insurance	$ 2,952	$ 123	$ 123	4.18%
03-5-06-50016	Benefits-Health\Defrd Comp	$ 115,866	$ 16,649	$ 16,649	14.37%
03-5-06-50017	Benefits-Disability Insurance	$ 5,421	$ 807	$ 807	14.89%
03-5-06-50019	Benefits-Workers Compensation	$ 16,264	$ -	$ -	0.00%
03-5-06-50021	Benefits PERS Employee	$ -	$ (187)	$ (187)	
03-5-06-50022	Benefits PERS Employer	$ 90,354	$ 3,779	$ 3,779	4.18%
03-5-06-50023	Benefits-Uniforms	$ 3,075	$ 48	$ 48	1.54%
03-5-06-50024	Benefits-Vacation & Sick Pay	$ 5,000	$ 311	$ 311	6.21%
03-5-06-50025	Benefits-Boot Allowance	$ 1,845	$ -	$ -	0.00%
03-5-06-51120	Safety Equipment/Supplies	$ 5,500	$ 737	$ 737	13.40%
03-5-06-51125	Petroleum Products	$ 18,000	$ 1,500	$ 1,500	8.33%
03-5-06-51130	Office Supplies	$ 10,000	$ 157	$ 157	1.57%
03-5-06-51140	General Supplies & Expenses	$ 30,000	$ 5,488	$ 5,488	18.29%
03-5-06-51199	Disaster Repairs	$ -	$ -	$ -	
03-5-06-54002	Dues & Subscriptions	$ 25,000	$ 505	$ 505	2.02%
03-5-06-54003	Management & Admin Services	$ 202,500	$ 16,875	$ 16,875	8.33%
03-5-06-54005	Computer Expenses	$ 100,000	$ 4,232	$ 4,232	4.23%
03-5-06-54011	Printing & Publications	$ -	$ 101	$ 101	N/A
03-5-06-54012	Education & Training	$ 15,000	$ 3,073	$ 3,073	20.49%
03-5-06-54014	Public Relations	$ 25,000	$ -	$ -	0.00%
03-5-06-54016	Travel Related Expenses	$ 10,000	$ 1,483	$ 1,483	14.83%
03-5-06-54017	Certifications & Renewals	$ 7,500	$ 382	$ 382	5.09%
03-5-06-54019	Licenses & Permits	$ 65,000	$ -	$ -	0.00%
03-5-06-54020	Meeting Related Expenses	$ 5,000	$ 565	$ 565	11.30%

FY 2018-19 Sewer Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
03-5-06-54022	Utilities - YVWD Services	$ 1,500	$ -	$ -	0.00%
03-5-06-54024	Utilities - Waste Disposal	$ 13,000	$ 1,136	$ 1,136	8.74%
03-5-06-54025	Utilities - Telephone & Internet	$ 45,000	$ 4,918	$ 4,918	10.93%
03-5-06-54030	Drinking Water	$ 1,250	$ 107	$ 107	8.60%
03-5-06-54104	Contractual Services	$ 50,000	$ 10,540	$ 10,540	21.08%
03-5-06-54107	Legal	$ 45,000	$ -	$ -	0.00%
03-5-06-54108	Audit & Accounting	$ 12,000	$ -	$ -	0.00%
03-5-06-54109	Professional Fees	$ 159,000	$ 2,500	$ 2,500	1.57%
03-5-06-55500	Depreciation Reserves	$ 500,000	$ 41,667	$ 41,667	8.33%
	Infrastructure Replacement	$ 500,000	$ 41,667	$ 41,667	8.33%
03-5-06-56001	Insurance	$ 115,000	$ 7,941	$ 7,941	6.91%
03-5-06-57030	Regulatory Compliance	$ 50,000	$ 2,171	$ 2,171	4.34%
	ADMINISTRATION TOTALS	**$ 2,924,466**	**$ 226,263**	**$ 226,263**	**7.74%**
03-5-07-50010	Labor-Enviromental Control	$ 614,646	$ 33,397	$ 33,397	5.43%
03-5-07-50011	Labor Credit	$ -	$ -	$ -	0.00%
03-5-07-50013	Benefits-Fica	$ 47,020	$ 2,541	$ 2,541	5.40%
03-5-07-50014	Benefits-Life Insurance	$ 3,888	$ 57	$ 57	1.47%
03-5-07-50016	Benefits-Health\Defrd Comp	$ 152,604	$ 9,080	$ 9,080	5.95%
03-5-07-50017	Benefits-Disability Insurance	$ 5,532	$ 447	$ 447	8.07%
03-5-07-50019	Benefits-Workers Compensation	$ 16,595	$ -	$ -	0.00%
03-5-07-50021	Benefits-PERS Employee	$ -	$ (256)	$ (256)	
03-5-07-50022	Benefits-PERS Employer	$ 92,197	$ 2,196	$ 2,196	2.38%
03-5-07-50023	Benefits-Uniforms	$ 4,050	$ 591	$ 591	14.60%
03-5-07-50024	Benefits-Vacation & Sick Pay	$ 2,501	$ 247	$ 247	9.88%
03-5-07-50025	Benefits-Boot Allowance	$ 2,430	$ 600	$ 600	24.69%
03-5-07-51003	R&M - Structures	$ 225,000	$ 32,666	$ 32,666	14.52%
03-5-07-51140	General Supplies & Expenses	$ 1,000	$ -	$ -	0.00%
03-5-07-51241	Lift Station #1	$ 55,000	$ 2,145	$ 2,145	3.90%
03-5-07-51242	Lift Station #2	$ 14,000	$ 723	$ 723	5.16%
03-5-07-51243	Lift Station #3	$ 9,000	$ 143	$ 143	1.59%
03-5-07-51244	Lift Station #4	$ 14,500	$ 537	$ 537	3.70%
03-5-07-51248	Lift Station #8	$ 3,000	$ 55	$ 55	1.85%
03-5-07-54111	Pretreatment	$ 60,000	$ 4,800	$ 4,800	8.00%
	ENVIRONMENTAL CONTROL TOTAL	**$ 1,322,963**	**$ 89,969**	**$ 89,969**	**6.80%**
03-5-40-57202	Debt Service - Principal - WRWRF	$ 2,252,312	$ -	$ -	0.00%
03-5-40-57203	Debt Service - Principal - Brineline	$ 435,383	$ -	$ -	0.00%
03-5-40-57204	Debt Service - Principal - WISE	$ 133,659	$ -	$ -	0.00%
03-5-40-57205	Debt Service - Principal - R 10.3	$ 39,161	$ -	$ -	0.00%
03-5-40-57206	Debt Service - Principal - Crow & B12-1	$ 15,330	$ -	$ -	0.00%
03-5-40-57403	Debt Service - Interest	$ 957,873	$ -	$ -	0.00%
	40 - Debt	**$ 3,833,718**	**$ -**	**$ -**	**0.00%**
03-5-40-57002	Asset Acq. - Treatment	$ -	$ -	$ -	
03-5-40-57006	Asset Acq. - Admin (fuel master)	$ -	$ -	$ -	
03-5-40-57007	Asset Acq. - EC (ADS flow monitors & smart covers)	$ -	$ -	$ -	
	40 - Capital Outlay	$ -	$ -	$ -	
				$ 567,388	
	TOTAL SEWER EXPENSES	**$ 12,337,754**	**$ 567,388**	**$ 567,388**	**4.60%**

FY 2018-19 Recycled Expenses					
G/L ACCOUNT #	DESCRIPTION	BUDGET	July '18	Year to Date	%
04-5-06-50010	Labor-Recycled Water	$ 677,931	$ 35,074	$ 35,074	5.17%
04-5-06-50011	Labor - Credit	$ -	$ -	$ -	
04-5-06-50012	Director Fees	$ 5,000	$ -	$ -	0.00%
04-5-06-50013	Benefits-FICA	$ 51,862	$ 2,703	$ 2,703	5.21%
04-5-06-50014	Benefits-Life Insurance	$ 3,528	$ 60	$ 60	1.70%
04-5-06-50016	Benefits-Health & Def Comp	$ 138,474	$ 9,274	$ 9,274	6.70%
04-5-06-50017	Benefits-Disability Insurance	$ 6,101	$ 509	$ 509	8.34%
04-5-06-50019	Benefits-Workers Compensation	$ 18,304	$ -	$ -	0.00%
04-5-06-50021	Benefits-PERS Employee	$ -	$ (114)	$ (114)	
04-5-06-50022	Benefits-PERS Employer	$ 101,690	$ 2,563	$ 2,563	2.52%
04-5-06-50023	Benefits-Uniforms	$ 3,675	$ 45	$ 45	1.23%
04-5-06-50024	Benefits-Vacation & Sick Pay	$ 1,000	$ 56	$ 56	5.62%
04-5-06-50025	Benefits-Boots	$ 2,205	$ 600	$ 600	27.21%
04-5-06-51003	R & M-Structures	$ 34,000	$ -	$ -	0.00%
04-5-06-51011	R & M-Valves	$ 5,000	$ -	$ -	0.00%
04-5-06-51020	R & M-Pipelines	$ 2,500	$ -	$ -	0.00%
04-5-06-51021	R & M-Service Lines	$ 2,500	$ -	$ -	0.00%
04-5-06-51022	R & M-Fire Hydrants	$ 1,000	$ -	$ -	0.00%
04-5-06-51030	R & M-Meters/Backflows	$ 10,000	$ 104	$ 104	1.04%
04-5-06-51140	General Supplies & Expenses	$ 5,000	$ 1,220	$ 1,220	24.39%
04-5-06-51210	Utilities-Power Purchasess	$ 70,000	$ 4,609	$ 4,609	6.58%
04-5-06-54002	Dues & Subscriptions	$ 1,500	$ 16	$ 16	1.03%
04-5-06-54005	Computer Expense	$ 5,000	$ -	$ -	0.00%
04-5-06-54011	Printing & Publications	$ -	$ -	$ -	N/A
04-5-06-54012	Education & Training	$ 4,000	$ 686	$ 686	17.15%
04-5-06-54014	Public Relations	$ 6,500	$ -	$ -	0.00%
04-5-06-54016	Travel Related Expenses	$ 2,500	$ 208	$ 208	8.32%
04-5-06-54017	Certifications & Renewals	$ 1,000	$ -	$ -	0.00%
04-5-06-54019	Licenses & Permits	$ 10,000	$ -	$ -	0.00%
04-5-06-54020	Meeting Related Expenses	$ 1,500	$ 126	$ 126	8.37%
04-5-06-54022	Utilities - YVWD Services	$ 30,000	$ -	$ -	0.00%
04-5-06-54025	Utilities - Telephone & Internet	$ 2,000	$ -	$ -	0.00%
04-5-06-54010	Contractural Services	$ 5,000	$ 2,000	$ 2,000	40.00%
04-5-06-54107	Legal	$ 1,500	$ -	$ -	0.00%
04-5-06-54108	Audit & Accounting	$ 2,500	$ -	$ -	0.00%
04-5-06-54109	Professional Fees	$ 10,000	$ -	$ -	0.00%
04-5-06-54110	Laboratory Services	$ -	$ -	$ -	
04-5-06-55500	Depreciation	$ 8,000	$ 685	$ 685	8.56%
	Infrastructure Replacement	$ 15,000	$ 1,250	$ 1,250	8.33%
04-5-06-56001	Insurance	$ 20,000	$ 1,765	$ 1,765	8.82%
04-5-06-57030	Regulatory Compliance	$ 25,000	$ -	$ -	0.00%
04-5-06-57040	Environmental Compliance	$ 2,500	$ -	$ -	0.00%
				$ *63,439*	
	TOTAL RECYCLED EXPENSES	**$ 1,293,270**	**$ 63,439**	**$ 63,439**	**4.91%**

Director Comments

Yucaipa Valley Water District

Adjournment

Yucaipa Valley Water District

Yucaipa Valley Water District

FACTS ABOUT THE YUCAIPA VALLEY WATER DISTRICT

Service Area Size: 40 square miles (sphere of influence is 68 square miles)

Elevation Change: 3,140 foot elevation change (from 2,044 to 5,184 feet)

Number of Employees:
5 elected board members
62 full time employees

Operating Budget:
Water Division - $13,397,500
Sewer Division - $11,820,000
Recycled Water Division - $537,250
Total Annual Budget - $25,754,750

Number of Services:
12,434 water connections serving 17,179 units
13,559 sewer connections serving 20,519 units
64 recycled water connections

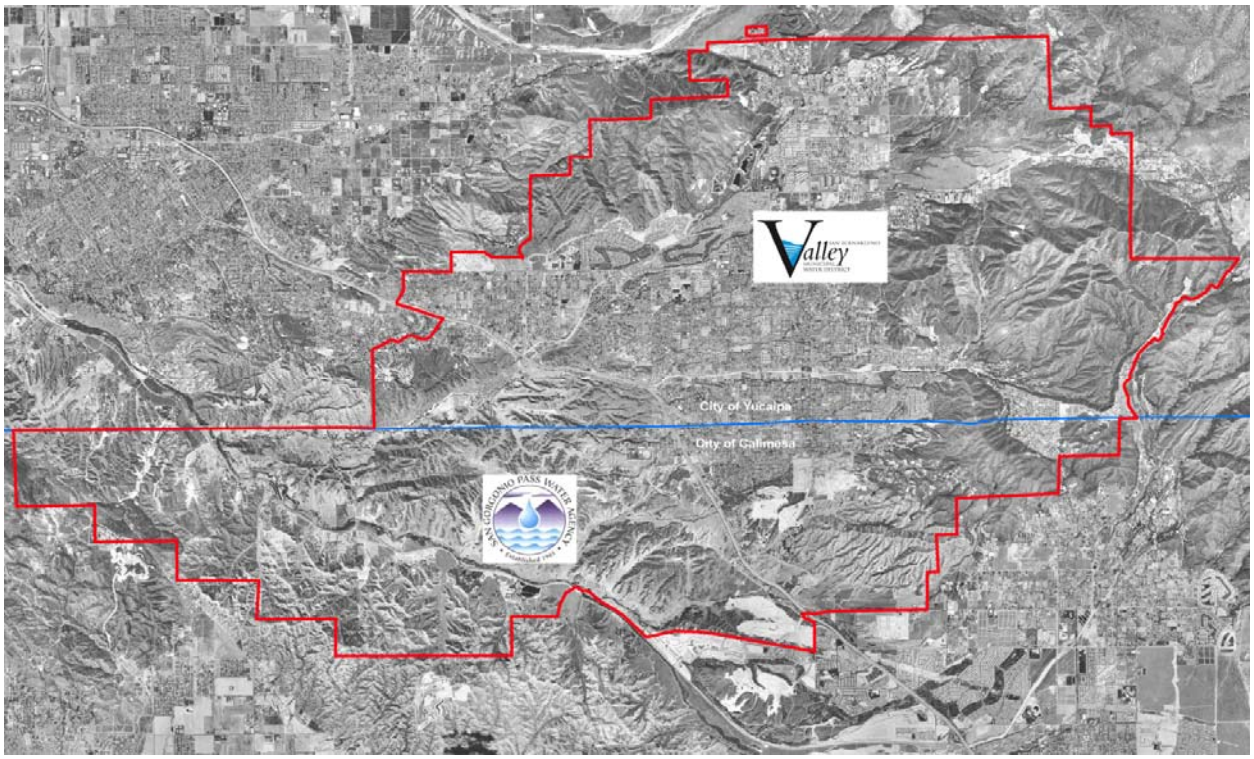
Water System:
215 miles of drinking water pipelines
27 reservoirs - 34 million gallons of storage capacity
18 pressure zones
12,000 ac-ft annual water demand (3.9 billion gallons)
Two water filtration facilities:
- 1 mgd at Oak Glen Surface Water Filtration Facility
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

Sewer System:
8.0 million gallon treatment capacity - current flow at 4.0 mgd
205 miles of sewer mainlines
5 sewer lift stations
4,500 ac-ft annual recycled water prod. (1.46 billion gallons)

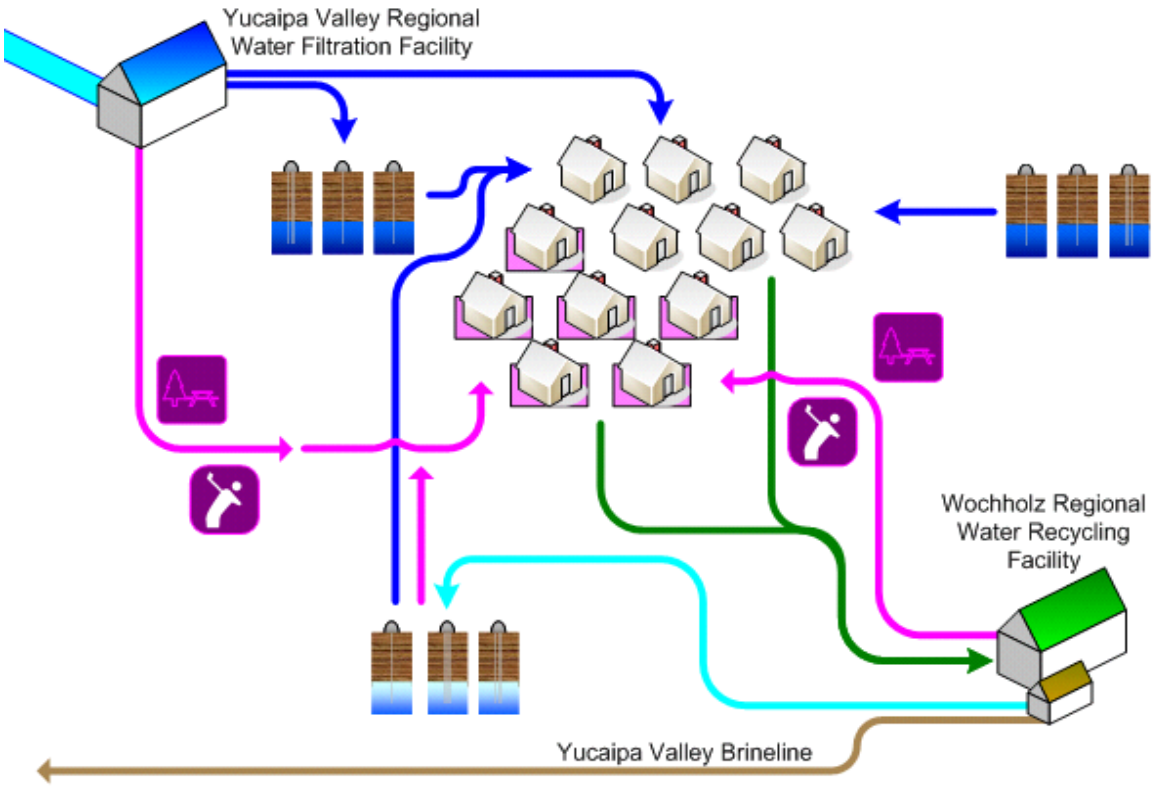
Recycled Water:
22 miles of recycled water pipelines
5 reservoirs - 12 million gallons of storage
1,200 ac-ft annual recycled demand (0.4 billion gallons)

Brine Disposal:
2.2 million gallon desalination facility at sewer treatment plant
1.108 million gallons of Inland Empire Brine Line capacity
0.295 million gallons of treatment capacity in Orange County

State Water Contractors: San Bernardino Valley Municipal Water District
San Gorgonio Pass Water Agency



Sustainability Plan: A Strategic Plan for a Sustainable Future: The Integration and Preservation of Resources, adopted on August 20, 2008.



Yucaipa Valley Water District

THE MEASUREMENT OF WATER PURITY

One part per hundred is generally represented by the percent (%).
This is equivalent to about fifteen minutes out of one day.

One part per thousand denotes one part per 1000 parts.
This is equivalent to about one and a half minutes out of one day.

One part per million (**ppm**) denotes one part per 1,000,000 parts.
This is equivalent to about 32 seconds out of a year.

One part per billion (**ppb**) denotes one part per 1,000,000,000 parts.
This is equivalent to about three seconds out of a century.

One part per trillion (**ppt**) denotes one part per 1,000,000,000,000 parts.
This is equivalent to about three seconds out of every hundred thousand years.

One part per quadrillion (**ppq**) denotes one part per 1,000,000,000,000,000 parts.
This is equivalent to about two and a half minutes out of the age of the Earth (4.5 billion years).

Yucaipa Valley Water District

GLOSSARY OF COMMONLY USED TERMS

Every profession has specialized terms which generally evolve to facilitate communication between individuals. The routine use of these terms tends to exclude those who are unfamiliar with the particular specialized language of the group. Sometimes jargon can create communication cause difficulties where professionals in related fields use different terms for the same phenomena.

Below are commonly used water terms and abbreviations with commonly used definitions. If there is any discrepancy in definitions, the District's Regulations Governing Water Service is the final and binding definition.

Acre Foot of Water - The volume of water (325,850 gallons, or 43,560 cubic feet) that would cover an area of one acre to a depth of 1 foot.

Activated Sludge Process – A secondary biological sewer treatment process where bacteria reproduce at a high rate with the introduction of excess air or oxygen, and consume dissolved nutrients in the wastewater.

Annual Water Quality Report - The document is prepared annually and provides information on water quality, constituents in the water, compliance with drinking water standards and educational material on tap water. It is also referred to as a Consumer Confidence Report (CCR).

Aquifer - The natural underground area with layers of porous, water-bearing materials (sand, gravel) capable of yielding a supply of water; see Groundwater basin.

Backflow - The reversal of water's normal direction of flow. When water passes through a water meter into a home or business it should not reverse flow back into the water mainline.

Best Management Practices (BMPs) - Methods or techniques found to be the most effective and practical means in achieving an objective. Often used in the context of water conservation.

Biochemical Oxygen Demand (BOD) – The amount of oxygen used when organic matter undergoes decomposition by microorganisms. Testing for BOD is done to assess the amount of organic matter in water.

Biosolids – Biosolids are nutrient rich organic and highly treated solid materials produced by the sewer treatment process. This high-quality product can be used as a soil amendment on farm land or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

Catch Basin – A chamber usually built at the curb line of a street, which conveys surface water for discharge into a storm sewer.

Capital Improvement Program (CIP) – Projects for repair, rehabilitation, and replacement of assets. Also includes treatment improvements, additional capacity, and projects for the support facilities.

Collector Sewer – The first element of a wastewater collection system used to collect and carry wastewater from one or more building sewer laterals to a main sewer.

Coliform Bacteria – A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere and is generally used as an indicator of sewage pollution.

Combined Sewer Overflow – The portion of flow from a combined sewer system, which discharges into a water body from an outfall located upstream of a wastewater treatment plant, usually during wet weather conditions.

Combined Sewer System– Generally older sewer systems designed to convey both sewage and storm water into one pipe to a wastewater treatment plant.

Conjunctive Use - The coordinated management of surface water and groundwater supplies to maximize the yield of the overall water resource. Active conjunctive use uses artificial recharge, where surface water is intentionally percolated or injected into aquifers for later use. Passive conjunctive use is to simply rely on surface water in wet years and use groundwater in dry years.

Consumer Confidence Report (CCR) - see Annual Water Quality Report.

Cross-Connection - The actual or potential connection between a potable water supply and a non-potable source, where it is possible for a contaminant to enter the drinking water supply.

Disinfection By-Products (DBPs) - The category of compounds formed when disinfectants in water systems react with natural organic matter present in the source water supplies. Different disinfectants produce different types or amounts of disinfection byproducts. Disinfection byproducts for which regulations have been established have been identified in drinking water, including trihalomethanes, haloacetic acids, bromate, and chlorite

Drought - a period of below average rainfall causing water supply shortages.

Dry Weather Flow – Flow in a sanitary sewer during periods of dry weather in which the sanitary sewer is under minimum influence of inflow and infiltration.

Fire Flow - The ability to have a sufficient quantity of water available to the distribution system to be delivered through fire hydrants or private fire sprinkler systems.

Gallons per Capita per Day (GPCD) - A measurement of the average number of gallons of water use by the number of people served each day in a water system. The calculation is made by dividing the total gallons of water used each day by the total number of people using the water system.

Groundwater Basin - An underground body of water or aquifer defined by physical boundaries.

Groundwater Recharge - The process of placing water in an aquifer. Can be a naturally occurring process or artificially enhanced.

Hard Water - Water having a high concentration of minerals, typically calcium and magnesium ions.

Hydrologic Cycle - The process of evaporation of water into the air and its return to earth in the form of precipitation (rain or snow). This process also includes transpiration from plants, percolation into the ground, groundwater movement, and runoff into rivers, streams and the ocean; see Water cycle.

Infiltration – Water other than sewage that enters a sewer system and/or building laterals from the ground through defective pipes, pipe joints, connections, or manholes. Infiltration does not include inflow. See *Inflow.*

Inflow - Water other than sewage that enters a sewer system and building sewer from sources such as roof vents, yard drains, area drains, foundation drains, drains from springs and swampy areas, manhole covers, cross connections between storm drains and sanitary sewers, catch basins, cooling towers, storm waters, surface runoff, street wash waters, or drainage. Inflow does not include infiltration. See *Infiltration*.

Inflow / Infiltration (I/I) – The total quantity of water from both inflow and infiltration.

Mains, Distribution - A network of pipelines that delivers water (drinking water or recycled water) from transmission mains to residential and commercial properties, usually pipe diameters of 4" to 16".

Mains, Transmission - A system of pipelines that deliver water (drinking water or recycled water) from a source of supply the distribution mains, usually pipe diameters of greater than 16".

Meter - A device capable of measuring, in either gallons or cubic feet, a quantity of water delivered by the District to a service connection.

Overdraft - The pumping of water from a groundwater basin or aquifer in excess of the supply flowing into the basin. This pumping results in a depletion of the groundwater in the basin which has a net effect of lowering the levels of water in the aquifer.

Peak Flow – The maximum flow that occurs over a specific length of time (e.g., daily, hourly, instantaneously).

Pipeline - Connected piping that carries water, oil or other liquids. See Mains, Distribution and Mains, Transmission.

Point of Responsibility, Metered Service - The connection point at the outlet side of a water meter where a landowner's responsibility for all conditions, maintenance, repairs, use and replacement of water service facilities begins, and the District's responsibility ends.

Potable Water - Water that is used for human consumption and regulated by the California Department of Public Health.

Pressure Reducing Valve - A device used to reduce the pressure in a domestic water system when the water pressure exceeds desirable levels.

Pump Station - A drinking water or recycled water facility where pumps are used to push water up to a higher elevation or different location.

Reservoir - A water storage facility where water is stored to be used at a later time for peak demands or emergencies such as fire suppression. Drinking water and recycled water systems will typically use concrete or steel reservoirs. The State Water Project system considers lakes, such as Shasta Lake and Folsom Lake to be water storage reservoirs.

Runoff - Water that travels downward over the earth's surface due to the force of gravity. It includes water running in streams as well as over land.

Sanitary Sewer System - Sewer collection system designed to carry sewage, consisting of domestic, commercial, and industrial wastewater. This type of system is not designed nor intended to carry water from rainfall, snowmelt, or groundwater sources. See *Combined Sewer System*.

Sanitary Sewer Overflow – Overflow from a sanitary sewer system caused when total wastewater flow exceeds the capacity of the system. See *Combined Sewer Overflow*.

Santa Ana River Interceptor (SARI) Line – A regional brine line designed to convey 30 million gallons per day of non-reclaimable wastewater from the upper Santa Ana River basin to the sewer treatment plant operated by Orange County Sanitation District.

Secondary Treatment – Biological sewer treatment, particularly the activated-sludge process, where bacteria and other microorganisms consume dissolved nutrients in wastewater.

Supervisory Control and Data Acquisition (SCADA) - A computerized system which provides the ability to remotely monitor and control water system facilities such as reservoirs, pumps and other elements of water delivery.

Service Connection - The water piping system connecting a customer's system with a District water main beginning at the outlet side of the point of responsibility, including all plumbing and equipment located on a parcel required for the District's provision of water service to that parcel.

Sludge – Untreated solid material created by the treatment of sewage.

Smart Irrigation Controller - A device that automatically adjusts the time and frequency which water is applied to landscaping based on real-time weather such as rainfall, wind, temperature and humidity.

Special District - A political subdivision of a state established to provide a public services, such as water supply or sanitation, within a specific geographic area.

Surface Water - Water found in lakes, streams, rivers, oceans or reservoirs behind dams.

Total Suspended Solids (TSS) – The amount of solids floating and in suspension in water or sewage.

Transpiration - The process by which water vapor is released into the atmosphere by living plants.

Trickling Filter – A biological secondary treatment process in which bacteria and other microorganisms, growing as slime on the surface of rocks or plastic media, consume nutrients in primary treated sewage as it trickles over them.

Underground Service Alert (USA) - A free service that notifies utilities such as water, telephone, cable and sewer companies of pending excavations within the area (dial 8-1-1 at least 2 working days before you dig).

Urban Runoff - Water from city streets and domestic properties that typically carries pollutants into the storm drains, rivers, lakes, and oceans.

Valve - A device that regulates, directs or controls the flow of water by opening, closing or partially obstructing various passageways.

Wastewater – Any water that enters the sanitary sewer.

Water Banking - The practice of actively storing or exchanging in-lieu surface water supplies in available groundwater basin storage space for later extraction and use by the storing party or for sale or exchange to a third party. Water may be banked as an independent operation or as part of a conjunctive use program.

Water cycle - The continuous movement water from the earth's surface to the atmosphere and back again; see Hydrologic cycle.

Water Pressure - Pressure created by the weight and elevation of water and/or generated by pumps that deliver water to the tap.

Water Service Line - The pipeline that delivers potable water to a residence or business from the District's water system. Typically the water service line is a 1” to 1½” diameter pipe for residential properties.

Watershed - A region or land area that contributes to the drainage or catchment area above a specific point on a stream or river.

Water Table - The upper surface of the zone of saturation of groundwater in an unconfined aquifer.

Water Transfer - A transaction, in which a holder of a water right or entitlement voluntarily sells/exchanges to a willing buyer the right to use all or a portion of the water under that water right or entitlement.

Water Well - A hole drilled into the ground to tap an underground water aquifer.

Wetlands - Lands which are fully saturated or under water at least part of the year, like seasonal vernal pools or swamps.

Wet Weather Flow – Dry weather flow combined with stormwater introduced into a combined sewer system, and dry weather flow combined with infiltration/inflow into a separate sewer system.

Yucaipa Valley Water District

COMMONLY USED ABBREVIATIONS

AQMD	Air Quality Management District
BOD	Biochemical Oxygen Demand
CARB	California Air Resources Board
CCTV	Closed Circuit Television
CWA	Clean Water Act
EIR	Environmental Impact Report
EPA	U.S. Environmental Protection Agency
FOG	Fats, Oils, and Grease
GPD	Gallons per day
MGD	Million gallons per day
O & M	Operations and Maintenance
OSHA	Occupational Safety and Health Administration
POTW	Publicly Owned Treatment Works
PPM	Parts per million
RWQCB	Regional Water Quality Control Board
SARI	Santa Ana River Inceptor
SAWPA	Santa Ana Watershed Project Authority
SBVMWD	San Bernardino Valley Municipal Water District
SCADA	Supervisory Control and Data Acquisition system
SSMP	Sanitary Sewer Management Plan
SSO	Sanitary Sewer Overflow
SWRCB	State Water Resources Control Board
TDS	Total Dissolved Solids
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
WDR	Waste Discharge Requirements
YVWD	Yucaipa Valley Water District