Yucaipa Valley Water District

12770 Second Street, Yucaipa, California 92399 Phone: (909) 797-5117

# Notice and Agenda of a Meeting of the Board of Directors

Tuesday, May 12, 2020 at 4:00 p.m.

Due to the spread of COVID-19 and in accordance with the Governor's Executive Order N-29-20 (a copy of which is attached to this agenda), the Yucaipa Valley Water District will be conducting this meeting by teleconference only. Public comments on matters listed on the agenda or on any matter within the District's jurisdiction will be received during Public Comments, Agenda Item No. III.

**This meeting is available by calling (888) 475-4499 using passcode 676-950-731#** NEW

**View live presentation material at** https://zoom.us/j/676950731 (Click here) NEW

**There will be no public physical location for attending this meeting in person. The District's Board meeting room will be closed to the public until further notice.**

If you are unable to participate by telephone, you may submit comments and/or questions in writing for the Board's consideration by sending them to inquiry@yvwd.us. Submit your written inquiry prior to the start of the meeting. All public comments received prior to the start of the meeting will be provided to the Board and may be read into the record or compiled as part of the record.

**I. CALL TO ORDER**

**II. ROLL CALL**

**III. PUBLIC COMMENTS** - At this time, members of the public may briefly address the Board of Directors on matters within its jurisdiction or on any matter listed on this agenda.

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

**IV. CONSENT CALENDAR** - All consent calendar matters are routine and will be acted upon in one motion. There will be no discussion of these items unless board members, administrative staff, or members of the public request specific items to be discussed and/or removed prior to the vote for approval.

A. Minutes of Meetings

1. Board Meeting - May 5, 2020

**V. STAFF REPORT**

**VI. DISCUSSION ITEMS**

A. Status Report Regarding the Proclamation of a Local Emergency Related to the Coronavirus and COVID-19 in the Yucaipa Valley Water District Service Area within the Counties of Riverside and San Bernardino [Director Memorandum No. 20-067 - Page 15 of 136]

RECOMMENDED ACTION: Pending

B. Presentation of the Unaudited Financial Report for the Period Ending on April 30, 2020 [Director Memorandum No. 20-068 - Page 56 of 136]

RECOMMENDED ACTION: That the Board receive and file the unaudited financial report.

C. Adoption of the 2020 Strategic Priorities, Goals and Objectives [Director Memorandum No. 20-069 - Page 81 of 136]

RECOMMENDED ACTION: That the Board, by minute order, adopt the 2020 strategic planning priorities.

D. Status Report on the Advanced Metering Infrastructure Project [Director Memorandum No. 20-070 - Page 86 of 136]

RECOMMENDED ACTION: Staff Presentation - No Action Required.

E. Status Report of Electrical Service for Improvements at Drinking Water Reservoir R-18.4 [Director Memorandum No. 20-071 - Page 89 of 136]

RECOMMENDED ACTION: Staff Presentation - No Action Required.

F. Status Report of the Replacement of the Drinking Water Reservoir R-16.6 - Calimesa [Director Memorandum No. 20-072 - Page 94 of 136]

RECOMMENDED ACTION: Staff Presentation - No Action Required.

G. Consideration of a Design-Bid Contract with Separation Processes for Secondary Treatment Process Improvements at the Wochholz Regional Water Recycling Facility [Director Memorandum No. 20-073 - Page 97 of 136]

RECOMMENDED ACTION: That the Board authorize the General Manager to enter into a contract with Separation Processes for a sum not to exceed $158,753.

H. Consideration of a Proposed Environmental Liability Insurance Policy [Director Memorandum No. 20-074 - Page 104 of 136]

RECOMMENDED ACTION: That the Board authorize the General Manager to execute the necessary documents for environmental liability insurance policy coverage from Alliant for the amount not to exceed $42,805.

I. Consideration of Resolution No. 2020-25 Recognizing and Honoring Director Bruce Granlund for his Leadership, Dedication and Service to the Community [Director Memorandum No. 20-075 - Page 126 of 136]

RECOMMENDED ACTION: That the Board adopts Resolution No. 2020-25.

**VII. BOARD REPORTS & DIRECTOR COMMENTS**

**VIII. ANNOUNCEMENTS**

A. May 19, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

B. May 26, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

C. June 2, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

D. June 9, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

E. June 16, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

F. June 23, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

G. June 30, 2020 at 4:00 p.m. - Board Meeting - Teleconference Only

## IX. CLOSED SESSION

A. Conference with Real Property Negotiator(s) - Government Code 54956.8
Property: Assessor's Parcel Number: 0319-121-38
Agency Negotiator: Joseph Zoba, General Manager
Negotiating Parties: Harry Holdorff
Under Negotiation: Terms of Payment and Price

B. Conference with Real Property Negotiator(s) - Government Code 54956.8
Property: Overlying Water Rights in the Beaumont Basin
Agency Negotiator: Joseph Zoba, General Manager
Negotiating Parties: Oak Valley Development Company
Under Negotiation: Terms of Payment and Price

C. Conference with Legal Counsel - Anticipated Litigation (Government Code 54956.9(d)(2) & (4)) - One Case

## X. ADJOURNMENT

**EXECUTIVE ORDER N-29-20**

**WHEREAS** on March 4, 2020, I proclaimed a State of Emergency to exist in California as a result of the threat of COVID-19; and

**WHEREAS** despite sustained efforts, the virus continues to spread and is impacting nearly all sectors of California; and

**WHEREAS** the threat of COVID-19 has resulted in serious and ongoing economic harms, in particular to some of the most vulnerable Californians; and

**WHEREAS** time bound eligibility redeterminations are required for Medi-Cal, CalFresh, CalWORKs, Cash Assistance Program for Immigrants, California Food Assistance Program, and In Home Supportive Services beneficiaries to continue their benefits, in accordance with processes established by the Department of Social Services, the Department of Health Care Services, and the Federal Government; and

**WHEREAS** social distancing recommendations or Orders as well as a statewide imperative for critical employees to focus on health needs may prevent Medi-Cal, CalFresh, CalWORKs, Cash Assistance Program for Immigrants, California Food Assistance Program, and In Home Supportive Services beneficiaries from obtaining in-person eligibility redeterminations; and

**WHEREAS** under the provisions of Government Code section 8571, I find that strict compliance with various statutes and regulations specified in this order would prevent, hinder, or delay appropriate actions to prevent and mitigate the effects of the COVID-19 pandemic.

**NOW, THEREFORE, I, GAVIN NEWSOM,** Governor of the State of California, in accordance with the authority vested in me by the State Constitution and statutes of the State of California, and in particular, Government Code sections 8567 and 8571, do hereby issue the following order to become effective immediately:

**IT IS HEREBY ORDERED THAT:**

1. As to individuals currently eligible for benefits under Medi-Cal, CalFresh, CalWORKs, the Cash Assistance Program for Immigrants, the California Food Assistance Program, or In Home Supportive Services benefits, and to the extent necessary to allow such individuals to maintain eligibility for such benefits, any state law, including but not limited to California Code of Regulations, Title 22, section 50189(a) and Welfare and Institutions Code sections 18940 and 11265, that would require redetermination of such benefits is suspended for a period of 90 days from the date of this Order. This Order shall be construed to be consistent with applicable federal laws, including but not limited to Code of Federal Regulations, Title 42, section 435.912, subdivision (e), as interpreted by the Centers for Medicare and Medicaid Services (in guidance issued on January 30, 2018) to permit the extension of

otherwise-applicable Medicaid time limits in emergency situations.

2. Through June 17, 2020, any month or partial month in which California Work Opportunity and Responsibility to Kids (CalWORKs) aid or services are received pursuant to Welfare and Institutions Code Section 11200 et seq. shall not be counted for purposes of the 48-month time limit set forth in Welfare an Institutions Code Section 11454. Any waiver of this time limit shall not be applied if it will exceed the federal time limits set forth in Code of Federal Regulations, Title 45, section 264.1.

3. Paragraph 11 of Executive Order N-25-20 (March 12, 2020) is withdrawn and superseded by the following text:

   Notwithstanding any other provision of state or local law (including, but not limited to, the Bagley-Keene Act or the Brown Act), and subject to the notice and accessibility requirements set forth below, a local legislative body or state body is authorized to hold public meetings via teleconferencing and to make public meetings accessible telephonically or otherwise electronically to all members of the public seeking to observe and to address the local legislative body or state body. All requirements in both the Bagley-Keene Act and the Brown Act expressly or impliedly requiring the physical presence of members, the clerk or other personnel of the body, or of the public as a condition of participation in or quorum for a public meeting are hereby waived.

   In particular, any otherwise-applicable requirements that

   (i) state and local bodies notice each teleconference location from which a member will be participating in a public meeting;

   (ii) each teleconference location be accessible to the public;

   (iii) members of the public may address the body at each teleconference conference location;

   (iv) state and local bodies post agendas at all teleconference locations;

   (v) at least one member of the state body be physically present at the location specified in the notice of the meeting; and

   (vi) during teleconference meetings, a least a quorum of the members of the local body participate from locations within the boundaries of the territory over which the local body exercises jurisdiction

   are hereby suspended.

   A local legislative body or state body that holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, consistent with the notice and accessibility requirements set forth below, shall have satisfied any requirement that the body allow

members of the public to attend the meeting and offer public comment. Such a body need not make available any physical location from which members of the public may observe the meeting and offer public comment.

Accessibility Requirements: If a local legislative body or state body holds a meeting via teleconferencing and allows members of the public to observe and address the meeting telephonically or otherwise electronically, the body shall also:

(i) Implement a procedure for receiving and swiftly resolving requests for reasonable modification or accommodation from individuals with disabilities, consistent with the Americans with Disabilities Act and resolving any doubt whatsoever in favor of accessibility; and

(ii) Advertise that procedure each time notice is given of the means by which members of the public may observe the meeting and offer public comment, pursuant to subparagraph (ii) of the Notice Requirements below.

Notice Requirements: Except to the extent this Order expressly provides otherwise, each local legislative body and state body shall:

(i) Give advance notice of the time of, and post the agenda for, each public meeting according to the timeframes otherwise prescribed by the Bagley-Keene Act or the Brown Act, and using the means otherwise prescribed by the Bagley-Keene Act or the Brown Act, as applicable; and

(ii) In each instance in which notice of the time of the meeting is otherwise given or the agenda for the meeting is otherwise posted, also give notice of the means by which members of the public may observe the meeting and offer public comment. As to any instance in which there is a change in such means of public observation and comment, or any instance prior to the issuance of this Order in which the time of the meeting has been noticed or the agenda for the meeting has been posted without also including notice of such means, a body may satisfy this requirement by advertising such means using "the most rapid means of communication available at the time" within the meaning of Government Code, section 54954, subdivision (e); this shall include, but need not be limited to, posting such means on the body's Internet website.

All of the foregoing provisions concerning the conduct of public meetings shall apply only during the period in which state or local public health officials have imposed or recommended social distancing measures.

All state and local bodies are urged to use sound discretion and to make reasonable efforts to adhere as closely as reasonably possible to the provisions of the Bagley-Keene Act and the Brown Act, and other applicable local laws regulating the conduct of public meetings, in order to maximize transparency and provide the public access to their meetings.

**IT IS FURTHER ORDERED** that as soon as hereafter possible, this Order be filed in the Office of the Secretary of State and that widespread publicity and notice be given of this Order.

This Order is not intended to, and does not, create any rights or benefits, substantive or procedural, enforceable at law or in equity, against the State of California, its agencies, departments, entities, officers, employees, or any other person.

**IN WITNESS WHEREOF** I have hereunto set my hand and caused the Great Seal of the State of California to be affixed this 17th day of March 2020.

GAVIN NEWSOM
Governor of California

# Consent Calendar

Yucaipa Valley Water District

# MINUTES OF A BOARD MEETING - TELECONFERENCE

## May 5, 2020 at 4:00 P.M.

Directors Present:
- Chris Mann, President
- Bruce Granlund, Vice President
- Jay Bogh, Director
- Lonni Granlund, Director
- Joyce McIntire, Director

Staff Present:
- Jennifer Ares, Water Resource Manager
- Madeline Blua, Water Resource Specialist
- Allison Edmisten, Chief Financial Officer
- Chelsie Fogus, Administrative Assistant I
- Ashley Gibson, Regulatory Compliance Manager
- Kathryn Hallberg, Implementation Manager
- Mike Kostelecky, Operations Manager
- Tim Mackamul, Operations Manager
- Matthew Porras, Implementation Manager
- Mike Rivera, Public Works Supervisor
- Joseph Zoba, General Manager

Directors Absent:
- None

Consulting Staff Present:
- David Wysocki, Legal Counsel

Registered Guests and Others Present:
- Ronica Hochreiter
- Ron Duncan, San Gorgonio Pass Water Agency

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Due to the spread of COVID-19 and in accordance with the Governor's Executive Order N-29-20 (a copy of which was attached to the meeting agenda), the Yucaipa Valley Water District conducted this meeting by teleconference.

The meeting was available to the public by calling (888) 475-4499 using passcode 676-950-731 and live presentation material was available at https://zoom.us/j/676950731.

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|---|---|
| CALL TO ORDER | The regular meeting of the Board of Directors of the Yucaipa Valley Water District was called to order by Chris Mann at 4:00 p.m. |
| ROLL CALL | The roll was called and Director Jay Bogh, Director Bruce Granlund, Director Lonni Granlund, Director Chris Mann, and Director Joyce McIntire were present. |
| PUBLIC COMMENTS | None |

CONSENT CALENDAR

Director Bruce Granlund moved to approve the consent calendar and Director Lonni Granlund seconded the motion.

A. Minutes of Meetings
   1. Board Meeting - April 28, 2020

The motion was approved by the following vote:
Director Jay Bogh - Yes
Director Bruce Granlund - Yes
Director Lonni Granlund - Yes
Director Chris Mann - Yes
Director Joyce McIntire - Yes

STAFF REPORT

General Manager Joseph Zoba provided information on the following item(s):

- Information was provided about the numerous lawsuits from the State Water Contractors and environmental groups over the long-term operation of the State Water Project. The lawsuits will likely impact the future reliability of imported water received in southern California through the State Water Project.
- Information was provided that showed the amount of drinking water and recycled water used at dual-plumbed homes in Calimesa. The current information indicates that dual-plumbed homes use about 4,000 to 5,000 gallons of drinking water per month.
- A water mainline leak was reported in the early morning hours of May 5, 2020 in upper Wildwood Canyon. This is the second leak over the past 30 days in this area which tends to indicate that the older PVC pipelines in the area are beginning to fail and will need to be replaced in the future.
- The Yucaipa Valley Regional Water Filtration Facility is online and processing drinking water at a rate of 10 cubic feet per second in anticipation of the warmer weather conditions.

DISCUSSION ITEMS:

DM 20-064

STATUS REPORT REGARDING THE PROCLAMATION OF A LOCAL EMERGENCY RELATED TO THE CORONAVIRUS AND COVID-19 IN THE YUCAIPA VALLEY WATER DISTRICT SERVICE AREA WITHIN THE COUNTIES OF RIVERSIDE AND SAN BERNARDINO

General Manager Joseph Zoba provided on overview of the current coronavirus and COVID-19 situation.

As of May 5, 2020, there are currently 175 confirmed COVID-19 cases with 22 related deaths in the City of Yucaipa, and 16 confirmed cases in the City of Calimesa with 1 confirmed death, a change over the past week from 168 and 15 confirmed cases, respectively.

On May 5, 2020, the District staff opened the office to customers. The District has implemented the standard safeguards to protect employees and the public.

Most of the District staff are working 10-hour days, Monday through Thursday. The District office will be closed on Fridays.

Water Treatment and Sewer Treatment staff members are working their usual schedules to provide daily coverage at the treatment facilities.

Online board meetings will continue to be conducted each week to make sure the District can quickly respond and adapt to changes in the current situation. Weekly board meetings also provide an opportunity for the public to participate and learn more about the water and sewer systems providing service to the community.

DM 20-065

STATUS REPORT OF THE REPLACEMENT OF THE DRINKING WATER RESERVOIR R-16.6 - CALIMESA

Implementation Manager Matthew Porras provided a detailed overview of the ring wall construction at Reservoir R-16.6.

The fabricated steel reservoir components will be delivered this week and construction updates will be provided at a future board meeting.

DM 20-066

SELECTION OF A SPECIAL DISTRICT REPRESENTATIVE FOR THE SAN BERNARDINO COUNTY LOCAL AGENCY FORMATION COMMISSION

General Manager Joseph Zoba provided an overview of the special district representative on the San Bernardino Local Agency Formation Commission.

Director Lonni Granlund moved that the Board complete and file a ballot for T. Milford Harrison as the Regular Special District Member of the San Bernardino Local Agency Formation Commission.

Director Joyce McIntire seconded the motion.

The motion was approved by the following vote:

Director Jay Bogh - Yes
Director Bruce Granlund - Yes
Director Lonni Granlund - Yes
Director Chris Mann - Yes
Director Joyce McIntire - Yes

BOARD REPORTS AND DIRECTOR COMMENTS

Director Joyce McIntire and Director Lonni Granlund reported on the San Gorgonio Pass Water Agency meeting held on May 4, 2020.

ANNOUNCEMENTS

Director Chris Mann called attention to the announcements listed on the agenda.

CLOSED SESSION

Director Jay Bogh, Director Bruce Granlund, Director Lonni Granlund, Director Chris Mann, and Director Joyce McIntire were present in closed session with Legal Counsel David Wysocki, Chief Financial Officer Allison Edmisten, and General Manager Joseph Zoba to discuss the following items.

C. Conference with Legal Counsel - Anticipated Litigation (Government Code 54956.9(d)(2) & (4)) - One Case

After reconvening out of closed session, Legal Counsel David Wysocki reported that direction was provided and that there were no other reportable actions taken.

ADJOURNMENT

The meeting was adjourned at 4:30 p.m.

Respectfully submitted,

Joseph B. Zoba, Secretary (Seal)

# Staff Report

Yucaipa Valley Water District

# Discussion Items

Yucaipa Valley Water District

Yucaipa Valley Water District

# Director Memorandum 20-067

**Date:** May 12, 2020

**Prepared By:** Joseph B. Zoba, General Manager

**Subject:** Status Report Regarding the Proclamation of a Local Emergency Related to the Coronavirus and COVID-19 in the Yucaipa Valley Water District Service Area within the Counties of Riverside and San Bernardino

**Recommendation:** Pending

The Centers for Disease Control and Prevention (CDC) is responding to an outbreak of respiratory disease caused by a novel (new) coronavirus that was first detected in China and has now been detected in countries throughout the world[1], including in the United States. The virus has been named "SARS-CoV-2" and the disease it causes has been named "coronavirus disease 2019" (abbreviated "COVID-19").

In light of rising public concern over the coronavirus disease 2019 (COVID-19), the drinking water supplied by the Yucaipa Valley Water District is clean, safe, and reliable. The SARS-CoV-2 virus has no impact on the quality or supply of tap water. The use of high pressure membranes at the Yucaipa Valley Regional Water Filtration Facility and the Wochholz Regional Water Recycling Facility have been proven to be an effective additional barrier to viruses and various undesirable chemical molecules. Additionally, the Yucaipa Valley Water District uses chlorine to disinfect the water before it enters the distribution system to protect against microorganisms such as bacteria, viruses, fungus, and other micro-organisms. This ensures safe drinking water for all our customers.

The District staff constantly monitors our distribution system to ensure that there is sufficient chlorine residual and there are no bacteriological issues. We conduct thousands of water quality tests annually to ensure our drinking water meets rigorous drinking water standards. Highly-skilled District staff constantly perform analyses both on-site and send other samples to state-certified laboratories for independent validation.

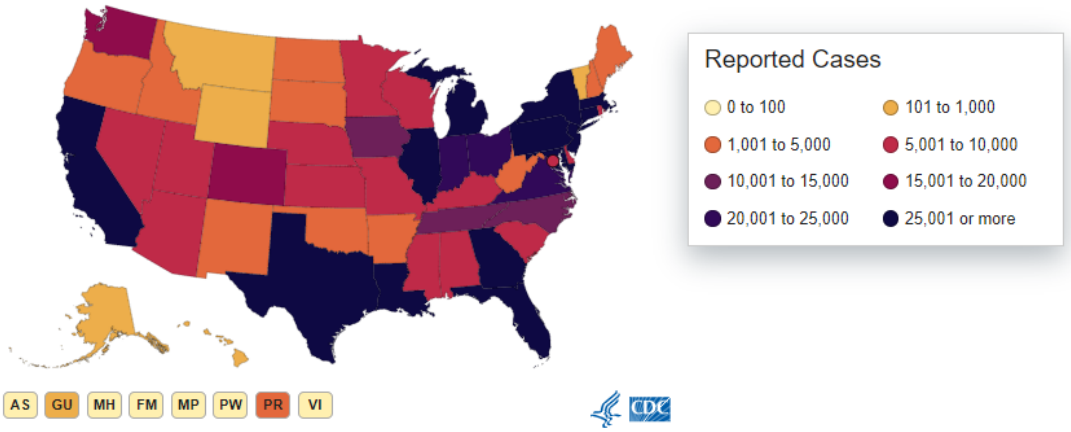
In addition, the Yucaipa Valley Water District has an extensive backflow prevention program where water cannot flow back into the drinking water system from properties that may pose a contamination risk.

The Yucaipa Valley Water District has installed microfiltration and reverse osmosis systems that further protect drinking water and recycled water from bacteriological impacts. The recycled water supply is further protected with the use of ultraviolet disinfection and reverse osmosis membranes that are able to provide additional protections against microorganisms.

The District staff will provide an update about the current steps taken by the District to protect the safety of employees and the community we serve.

[1] Novel Coronavirus (COVID-19) Situation Summary https://covid19.who.int/

21 states report more than 10,000 cases of COVID-19.

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**COVID-19 in California by the Numbers**

**Note:** The following numbers reflect information received by local health jurisdictions as of 2 p.m. PDT March 23. More current numbers may be available from local health jurisdictions.

2,102 – Positive cases

40 – Deaths (including one non-California resident)

*Increase occurred over period of two days.

- 531 – Community-acquired cases
- 1,571 – Cases acquired through person-to-person transmission, travel (including cruise ship passengers), repatriation, or under investigation.
  - This includes 31 health care workers.

**Ages of all confirmed positive cases:**

- Age 0-17: 28 cases
- Age 18-49: 970 cases
- Age 50-64: 493 cases
- Age 65+: 449 cases
- Unknown: 162 cases

**Gender of all confirmed positive cases:**

- Female: 843 cases
- Male: 1,081 cases
- Unknown: 178 cases

22 – State and county health labs currently testing

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[2] States Reporting Cases of COVID-19 to the CDC https://www.cdc.gov/coronavirus/2019-ncov/cases-updates/cases-in-us.html
[3] https://www.cdph.ca.gov/Programs/OPA/Pages/NR20-32.aspx

Centers for Disease Control and Prevention

# Coronavirus Disease 2019 (COVID-19)

# Guidance for Building Water Systems

Ensure the safety of your building water system and devices after a prolonged shutdown

Updated April 22, 2020

## Summary of Changes

- Updated hot tub/spa disinfection guidance (Step 5c)

Stagnant, or standing water can cause conditions that increase the risk for growth and spread of *Legionella* and other biofilm-associated bacteria. When water is stagnant, hot water temperatures can decrease to the *Legionella* growth range (77–108°F, 25–42°C). Stagnant water can also lead to low or undetectable levels of disinfectant, such as chlorine. Ensure that your water system is safe to use after a prolonged shutdown to minimize the risk of Legionnaires' disease and other diseases associated with water.

## 8 Steps to take before your business or building reopens

1. Develop a comprehensive water management program (WMP) for your water system and all devices that use water. Guidance to help with this process is available from CDC and others.
   a. Water Management Program Toolkit:
   This toolkit is designed to help people understand which buildings and devices need a *Legionella* water management program to reduce the risk of Legionnaires' disease, what makes a good program, and how to develop it.
   https://www.cdc.gov/legionella/wmp/toolkit/index.html
   b. Preventing Legionnaires' Disease: A Training on *Legionella* Water Management Programs (PreventLD Training)
   Take this training from CDC and partners on creating a water management program to reduce risk of Legionnaires' disease. PreventLD Training aligns with industry standards on managing risk of *Legionella* bacteria.
   https://www.cdc.gov/nceh/ehs/elearn/prevent-LD-training.html
   c. Hotel Guidance:
   Considerations for Hotel Owners and Managers: How to Prevent Legionnaires' Disease
   https://www.cdc.gov/legionella/wmp/hotel-owners-managers.html
   d. Operating Public Hot Tubs for pool staff and owners
   https://www.cdc.gov/healthywater/swimming/aquatics-professionals/operating-public-hot-tubs.html
   e. From Plumbing to Patients
   Water management programs in healthcare facilities are an important way to help protect vulnerable patient populations as well as staff and visitors.
   https://www.cdc.gov/hai/prevent/environment/water.html
   f. Preventing Occupational Exposure to *Legionella*
   https://www.cdc.gov/niosh/docs/wp-solutions/2019-131/default.html
2. Ensure your water heater is properly maintained and the temperature is correctly set
   a. Determine if your manufacturer recommends draining the water heater after a prolonged period of disuse. Ensure that all maintenance activities are carried out according to the manufacturer's instructions or by professionals.
   b. Make sure that your water heater is set to at least 120°F
   c. Higher temperatures can further reduce the risk of *Legionella* growth, but ensure that you take measures to prevent scalding if you water heater is set to >130°F

3. Flush your water system
    a. Flush hot and cold water through all points of use (e.g., showers, sink faucets)
        i. Flushing may need to occur in segments (e.g., floors or individual rooms) due to facility size and water pressure. The purpose of building flushing is to replace all water inside building piping with fresh water.
    b. Flush until the hot water reaches its maximum temperature
4. Clean all decorative water features, such as fountains.
    a. Be sure to follow any recommended manufacturer guidelines for cleaning
    b. Ensure that decorative water features are free of visible slime or biofilm
    c. After the water feature has been re-filled, measure disinfectant levels to ensure that the water is safe for use
5. Ensure hot tubs/spas are safe for use
    a. Check for existing guidelines from your local or state regulatory agency before use
    b. Ensure that hot tubs/spas are free of visible slime or biofilm before filling with water
    c. Perform a hot tub/spa disinfection procedure before use
        i. CDC Guidance (follow Steps 4–9 and 12–13): https://www.cdc.gov/legionella/downloads/hot-tub-disinfection.pdf
        ii. Facilities may decide to test the hot tub/spa for *Legionella* before returning to service if previous device maintenance logs, bacterial testing results, or associated cases of Legionnaires' disease indicate an elevated level of risk to occupants. All *Legionella* testing decisions should be made in consultation with facility water management program staff along with relevant public health authorities.
6. Ensure cooling towers are clean and well-maintained
    a. Ensure that cooling towers are maintained (including start-up and shut-down procedures) per manufacturer's guidelines and industry best practices
    b. Ensure that the tower and basin are free of visible slime or biofilm before use
        i. If the tower appears well-maintained, perform an online disinfection procedure
            - Guidance on disinfection procedures from the Cooling Technology Institute: http://www.cti.org/downloads/WTP-148.pdf
7. Ensure safety equipment including fire sprinkler systems, eye wash stations, and safety showers are clean and well-maintained
    a. Regularly flush, clean, and disinfect these systems according to manufacturers' specifications.
8. Maintain your water system
    a. Consider contacting your local water utility to learn about any recent disruptions in the water supply. This could include working with the local water utility to ensure that standard checkpoints near the building or at the meter to the building have recently been checked or request that disinfectant residual entering the building meets expected standards.
    b. After your water system has returned to normal, ensure that the risk of *Legionella* growth is minimized by regularly checking water quality parameters such as temperature, pH, and disinfectant levels.
    c. Follow your water management program, document activities, and promptly intervene when problems arise.

# RESOLUTION NO. 2020-15

## A RESOLUTION OF THE YUCAIPA VALLEY WATER DISTRICT PROCLAIMING A LOCAL EMERGENCY RELATED TO THE CORONAVIRUS AND COVID-19 IN THE YUCAIPA VALLEY WATER DISTRICT SERVICE AREA WITHIN THE COUNTIES OF RIVERSIDE AND SAN BERNARDINO

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 governing body of the Yucaipa Valley Water District has the authority to proclaim a local emergency; and

WHEREAS, California Government Code Section 3100 states that all public employees are declared to be disaster service workers subject to such disaster service activities as may be assigned to them by their superiors or by law, and the Yucaipa Valley Water District needs to provide drinking water, recycled water and sewer services deemed as an essential public service; and

WHEREAS, any actions that the Yucaipa Valley Water District may take to ensure the continuation of critical services to protect the safety of customers and to provide for immunities that will protect the Yucaipa Valley Water District for actions taken, as covered under the California Emergency Services Act; and

WHEREAS, working with the County of Riverside and the County of San Bernardino, this proclamation authorizes the undertaking of powers and invoking and disseminating emergency orders (e.g., emergency orders, emergency spending authorities, emergency or pre-established contracting, order necessary Personal Protective Equipment, recovery, etc.) and regulations necessary to provide for the protection of life, property, and the environment; and

WHEREAS, this proclamation establishes that an emergency exists, and that if mutual aid of in-county resources are needed to assist the District, as covered under the California Master Mutual Aid Agreement and any local agreements to provide mutual aid should be sufficient to establish, and that the Emergency Services Act applies; and

WHEREAS, this proclamation establishes that an emergency exists, and if out-of-county assistance is needed, requests for mutual aid should follow procedures set forth by the Standardized Emergency Management System (SEMS) and the Governor's Office of Emergency Services (CalOES), including obtaining mission numbers through the County of Riverside Emergency Management Department from CalOES for responding agencies. This is particularly important for possible reimbursement of extraordinary expenses in the event of a proclaimed "State of Emergency" or in the event of a presidential declaration of disaster when state or federal disaster relief funds become available; and

WHEREAS, conditions of disaster or of extreme peril to the health and safety of persons and property have arisen both internationally and within the United States as a result of the introduction of the novel coronavirus (COVID-19), a novel communicable disease which led to

California Governor Gavin Newson, to proclaim a State of Emergency for California on March 4, 2020; and

WHEREAS, currently COVID-19 has spread globally and as of March 19, 2020 has impacted 168 countries, infecting more than 209,839 persons and causing more than 8,778 fatalities worldwide (Source: WHO Novel Coronavirus (COVID-19) Situation - https://experience.arcgis.com/experience/685d0ace521648f8a5beeeee1b9125cd). Due to the expanding list of countries with widespread transmission of COVID-19, and increasing travel alerts and warnings for countries experiencing sustained or uncontrolled community transmission issued by the Centers for Disease Control and Prevention (CDC), COVID-19 has created conditions that are likely to be beyond the control of local resources and require the combined forces of other political subdivisions to combat this virus; and

WHEREAS, a Local Health Emergency was proclaimed by the County of Riverside Public Health Officer on March 8, 2020, and ratified by the Board of Supervisors on March 10, 2020; and

WHEREAS, the County of San Bernardino Public Health Officer on March 17, 2020, ordered a cancellation of all gatherings; and

WHEREAS, a Local Emergency was proclaimed by the County of Riverside Board of Supervisors on March 10, 2020; and

WHEREAS, the CDC confirmed person-to-person transmission of COVID-19 in the United States, raising the possibility of community transmission occurring in the general public. This has resulted in a Federal Declaration of National Emergency as declared by President Donald Trump on March 13, 2020; and

WHEREAS, the Yucaipa Valley Water District's ability to mobilize local resources, coordinate interagency response, accelerate procurement of vital supplies, use mutual aid, and seek future reimbursement by State and Federal governments will be critical to successfully responding to COVID-19; and

WHEREAS, these conditions warrant and necessitate that the Yucaipa Valley Water District proclaim the existence of a local emergency; now, therefore,

BE IT RESOLVED that the Board of Directors of the Yucaipa Valley Water District hereby proclaims the existence of a local emergency and directs the General Manager (or his designee) to take the necessary steps for the protection of life, health and safety of the employees and residents of our community.

IT IS FURTHER RESOLVED that during the existence of said local emergency, the powers, functions, and duties of the Yucaipa Valley Water District shall be those prescribed by state law and by ordinances and resolutions of the Board of Directors at the discretion and direction of the General Manager.

IT IS FURTHER RESOLVED that all departments of the Yucaipa Valley Water District shall review and revise their department emergency and contingency plans to address the risks COVID-19 poses to the ongoing performance of their critical functions.

IT IS FURTHER RESOLVED that all District departments and employees shall track costs for staffing, supplies, and equipment related to COVID-19 preparation and prevention and forward that information to the Chief Financial Officer; and complete an Initial Damage Estimate (IDE) Category B, and forward that information to the Riverside County Emergency Management Department and the San Bernardino County Office of Emergency Services.

IT IS FURTHER RESOLVED that the District's departments shall coordinate District-wide planning, preparedness and response efforts regarding COVID-19 with the Riverside County EMD and San Bernardino County OES.

IT IS FURTHER RESOLVED that this Resolution shall take effect immediately and that widespread publicity and notice shall be given said Proclamation through the most feasible and adequate means of disseminating such notice throughout the District.

BE IT FURTHER RESOLVED AND ORDERED that a copy of this Resolution be forwarded to the Riverside County EMD and San Bernardino County OES to be forwarded to the Director of the California Governor's Office of Emergency Services.

PASSED, APPROVED and ADOPTED this 24th day of March 2020.

YUCAIPA VALLEY WATER DISTRICT

Chris Mann, President Board of Directors

ATTEST:

Joseph B. Zoba, General Manager

June 5, 2017 Version 1.1

# Developing a Water Management Program to Reduce *Legionella* Growth & Spread in Buildings

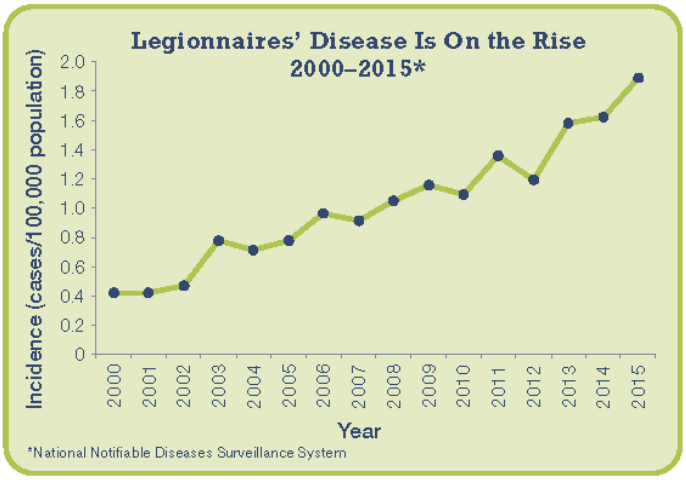
## A PRACTICAL GUIDE TO IMPLEMENTING INDUSTRY STANDARDS


Source: https://www.cdc.gov/legionella/downloads/toolkit.pdf

# Foreword

Legionnaires' disease is a serious type of pneumonia caused by bacteria, called *Legionella*, that live in water. *Legionella* can make people sick when they inhale contaminated water from building water systems that are not adequately maintained. Unfortunately, Legionnaires' disease is on the rise in the United States. To reverse this trend, we are asking for your help to manage the risk of exposure to *Legionella* from water in your building.

Your building may need a water management program to reduce the risk for Legionnaires' disease associated with your building water system and devices. This water management program should identify areas or devices in your building where *Legionella* might grow or spread to people so that you can reduce that risk. *Legionella* water management programs are now an industry standard for large buildings in the United States (ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta).




In the United States, reported cases of Legionnaires' disease have increased by nearly four and a half times since 2000. More illness occurs in the summer and early fall but can happen any time of year.

This toolkit will help you develop and implement a water management program to reduce your building's risk for growing and spreading *Legionella*. If you already have a program, this toolkit will help you assess and strengthen it. Included are practical resources to help you ensure that your water management program is comprehensive, effective, and in line with industry standards. This toolkit also highlights special considerations for healthcare facilities.

Because building water systems vary in their design and complexity, examples in this toolkit are only meant to help you understand the process. You should develop a water management program to reduce *Legionella* growth and spread that is specific to your building.

We welcome your feedback on this toolkit by emailing RDB@cdc.gov.

For additional information about Legionnaires' disease, visit www.cdc.gov/legionella.

This toolkit can also be found online at www.cdc.gov/legionella/WMPtoolkit.

**Nancy Messonnier, MD, CAPT USPHS**
Director, National Center for Immunization and Respiratory Diseases
U.S. Centers for Disease Control and Prevention

**Patrick Breysse, PhD**
Director, National Center for Environmental Health/Agency for Toxic Substances and Disease Registry
U.S. Centers for Disease Control and Prevention

# Table of Contents

# How to Use This Toolkit

If you've never developed a *Legionella* water management program (a plan to reduce the risk of *Legionella* growth and spread), you might not be sure where or how to start. This toolkit will provide guidance to help you develop, implement, and evaluate a *Legionella* water management program for your building. You do not have to have training or certification in any specific hazard analysis, risk assessment, or risk management methodologies to use this toolkit. However, you may need to seek help from an expert in some cases. Be sure to follow all relevant federal, state, and local laws, regulations, and ordinances. If anything in this toolkit conflicts with these policies, always adhere to the policies.

## Where do we start?

The first step is to determine if you even need a program. You can use the worksheet on page 2 to find out if your entire building or parts of it are at increased risk for *Legionella* growth and spread. If you learn that you need to develop a program, this toolkit will explain what steps you should take and give several examples to clarify the process.

## Do we really need a water management program to prevent *Legionella* growth and spread?

If you answer **YES** to any of the questions on page 2, then yes! Developing and implementing a program means that you are helping to protect people from getting Legionnaires' disease, a serious type of pneumonia (see Appendix A for more information on this disease).

## Is this toolkit full of scientific terms?

You might come across some technical terms that are unfamiliar. The glossary on page 3 and the introduction to *Legionella* ecology on pages 4–5 should help you with these terms.

## Will this toolkit tell us everything that we need to do?

No. Because every building is unique, only you have access to all the information that is needed to develop and implement a program specific to your building. An example of a building is included to help illustrate some of the steps. It's important to know that these examples are not comprehensive and you will need to create a program specific to your building water system and devices.

## This toolkit looks really long. What's the bottom line?

You need to actively identify and manage hazardous conditions that support growth and spread of *Legionella*. As you work through the toolkit, you'll learn about the importance of identifying and controlling hazardous conditions that increase the chance of *Legionella* growth and spread. The bottom line is that you need to:

- Identify building water systems for which *Legionella* control measures are needed
- Assess how much risk the hazardous conditions in those water systems pose
- Apply control measures to reduce the hazardous conditions, whenever possible, to prevent *Legionella* growth and spread
- Make sure the program is running as designed and is effective

## Is there anyone who can help us develop our program?

Yes. As you'll learn in the toolkit, it's recommended that you form a water management team. Your team should include a variety of people who bring different skills to the table (learn more on page 7). You might already have all the expertise you need on staff, but sometimes you will need to get outside help. In some cases, you may need to train your in-house personnel or hire professionals with specific experience in *Legionella* bacteria in building water systems, such as a certified industrial hygienist, a microbiologist, or an environmental health specialist. Blueprints could come in handy, too.

## What do all of the gray boxes mean?

The gray boxes throughout the document highlight program elements that are especially relevant for healthcare facilities. The content found outside of the gray boxes is also applicable to these types of facilities.

# Identifying Buildings at Increased Risk

Survey your building (or property) to determine if you need a water management program to reduce the risk of *Legionella* growth and spread.

**If you answer YES to any of questions 1 through 4, you should have a water management program for *that building's* hot and cold water distribution system.**

## Healthcare Facilities

Yes ____ No ____ 1. Is your building a healthcare facility where patients stay overnight or does your building house or treat people who have chronic and acute medical problems† or weakened immune systems?

Yes ____ No ____ 2. Does your building primarily house people older than 65 years (like a retirement home or assisted-living facility)?

Yes ____ No ____ 3. Does your building have multiple housing units and a centralized hot water system (like a hotel or high-rise apartment complex)?

Yes ____ No ____ 4. Does your building have more than 10 stories (including basement levels)?

**Devices in buildings that can spread contaminated water droplets should have a water management program even if the building itself does not. If you answer NO to all of questions 1 through 4 but YES to any of questions 5 through 8, you should have a water management program for *that device*.**

Yes ____ No ____ 5. Does your building have a cooling tower*?

Yes ____ No ____ 6. Does your building have a hot tub (also known as a spa) that is not drained between each use?

Yes ____ No ____ 7. Does your building have a decorative fountain?

Yes ____ No ____ 8. Does your building have a centrally-installed mister, atomizer, air washer, or humidifier?

**If you answer NO to questions 1 through 8, you should still maintain water systems according to manufacturer recommendations.** On properties with multiple buildings, prioritize buildings that house or treat people who are at increased risk for Legionnaires' disease (see Appendix A to learn who is at increased risk).

**The building standards discussed in this toolkit do not apply to single-family or small multiple-family residences (e.g., duplexes), even those with the devices in questions 6 through 8, but residents do need to take steps to protect themselves from waterborne diseases.**

Homeowners should follow local and state guidelines for household water use, and owners of the devices in questions 6 through 8 should follow the manufacturer's instructions regarding cleaning, disinfecting, and maintenance.

# Glossary

**Biofilm (slime):** Germs and the slime they secrete that stick to and grow on any continually moist surface; provides housing, food, and security for many different types of germs, including *Legionella*

**Building water systems:** Includes hot and cold water distribution and all devices that use water people can be exposed to, such as hot tubs, decorative fountains, and cooling towers

**Control:** To manage the conditions within your building according to your water management program

**Control measures:** Things you do in your building water systems to limit growth and spread of *Legionella*, such as heating, adding disinfectant, or cleaning

**Control limits:** The maximum value, minimum value, or range of values that are acceptable for the control measures that you are monitoring to reduce the risk for *Legionella* growth and spread

**Control points:** Locations in the water systems where a control measure can be applied

**Contingency response:** Reaction to control measures that are persistently outside of control limits or events that pose an immediate risk to control of your building water systems; required for all instances when Legionnaires' disease occurs, but may also be appropriate for unexpected events such as equipment failure or acts of nature that disrupt the water system

**Corrective action:** Actions taken to reestablish control when monitoring or measurement values are outside control limits

**Dead legs:** Piping that is subject to low or no flow due to design or decreased water use such as capped pipes or unused faucets

**Disinfectant:** Chemical or physical treatment used to kill germs, such as chlorine, monochloramine, chlorine dioxide, copper-silver ionization, ultraviolet light, or ozone

**Hazardous conditions:** Anything that, if not controlled, can contribute to the growth and spread of *Legionella* to a person

**Healthcare facility:** A place where patients stay overnight for medical care or where people with chronic or acute medical problems* are treated; this may include inpatient or outpatient care areas

**Heterotrophic plate counts:** A measure of the number and variety of bacteria that are common in water; a high count may indicate a high microbial load and the need for corrective action, but cannot be substituted for *Legionella* testing

***Legionella*:** Bacteria that can cause Legionnaires' disease

**Legionnaires' disease:** A serious type of pneumonia caused by *Legionella*

**Residual:** The amount of disinfectant available in water to kill germs

**Scale and sediment:** The mineral build-up in a water system that uses up disinfectant and supports germ growth and/or survival

**Stagnation:** When water does not flow well; areas of stagnant water encourage biofilm growth and reduce temperature and level of disinfectant

# Introduction to *Legionella* Ecology


*Legionella pneumophila*

*Legionella* is found naturally in freshwater environments, like lakes and streams, but generally the low amounts in freshwater do not lead to disease. *Legionella* can become a health problem in building water systems. To pose a health risk, *Legionella* first has to **grow** (increase in numbers). Then it has to be **aerosolized** so people can breathe in small, contaminated water droplets.

## Where can *Legionella* grow and/or spread?

*Legionella* can grow in many parts of building water systems that are continually wet, and certain devices can then spread contaminated water droplets. Examples include:

- Hot and cold water storage tanks
- Water heaters
- Water-hammer arrestors
- Expansion tanks
- Water filters
- Electronic and manual faucets*
- Aerators
- Faucet flow restrictors
- Showerheads* and hoses
- Pipes, valves, and fittings
- Centrally-installed misters*, atomizers*, air washers*, and humidifiers*
- Nonsteam aerosol-generating humidifiers*
- Infrequently used equipment, including eyewash stations*
- Ice machines*
- Hot tubs*
- Decorative fountains*
- Cooling towers*
- Medical devices* (such as CPAP machines, hydrotherapy equipment, bronchoscopes)

*These devices can spread *Legionella* through aerosols or aspiration

## Factors external to buildings that can lead to *Legionella* growth

- **Construction:** Vibrations and changes in water pressure can dislodge biofilm and free *Legionella* into the water entering your building.
- **Water main breaks:** Changes in water pressure can dislodge biofilm and free *Legionella* into the water, while dirt and other materials can be introduced into the water and use up disinfectant.
- **Changes in municipal water quality:** Changes in water quality can increase sediment, lower disinfectant levels, increase turbidity, or cause pH to be outside recommended ranges. Changes in disinfectant type can impact how you should monitor your program.

## Factors internal to buildings that can lead to *Legionella* growth

- **Biofilm:** Protects *Legionella* from heat and disinfectant; provides food and shelter to germs; grows on any surface that is constantly moist and can last for decades
- **Scale and sediment:** Uses up disinfectant and creates a protected home for *Legionella* and other germs
- **Water temperature fluctuations:** Provide conditions where *Legionella* grows best (77°F–108°F); *Legionella* can still grow outside this range
- **Water pressure changes:** Can cause biofilm to dislodge, colonizing downstream devices
- **pH:** Disinfectants are most effective within a narrow range (approximately 6.5 to 8.5)

  Many things can cause the hot water temperature to drop into the range where *Legionella* can grow, including low settings on water heaters, heat loss as water travels through long pipes away from the heat source, mixing cold and hot water within the plumbing system, heat transfer (when cold and hot water pipes are too close together), or heat loss due to water stagnation. In hot weather, cold water in pipes can heat up into this range.

- **Inadequate disinfectant:** Does not kill or inactivate *Legionella.*

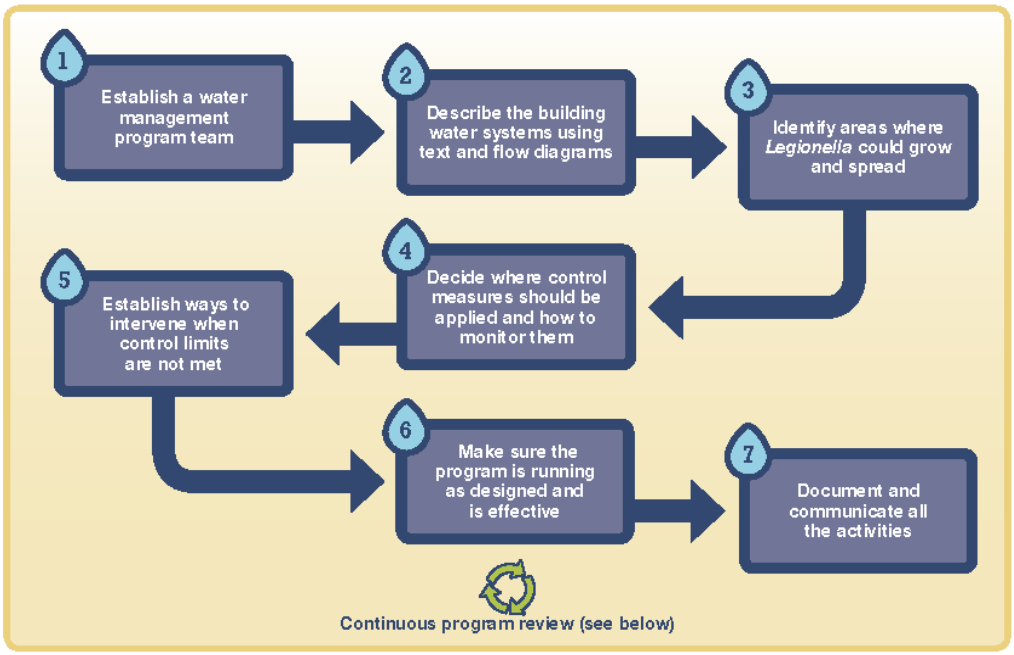
  Even if the water entering your building is of high quality, it may contain *Legionella*. In some buildings, processes such as heating, storing, and filtering can degrade the quality of the water. These processes use up the disinfectant the water entered with, allowing the few *Legionella* that entered to grow into a large number if not controlled.

- **Water stagnation:** Encourages biofilm growth and reduces temperature and levels of disinfectant.

  Common issues that contribute to water stagnation include renovations that lead to 'dead legs' and reduced building occupancy, which can occur in hotels during off-peak seasons, for example. Stagnation can also occur when fixtures go unused, like a rarely used shower in a hospital room.

# Elements of a Water Management Program

Developing and maintaining a water management program is a multi-step, continuous process. The key steps, listed here, are explained in more detail throughout the toolkit with the associated step number appearing on the page where the specific step is discussed.




## Program Review

You need to **review** the elements of your program at least once per year. Make sure you also review and revise your program when any of the following events occur:

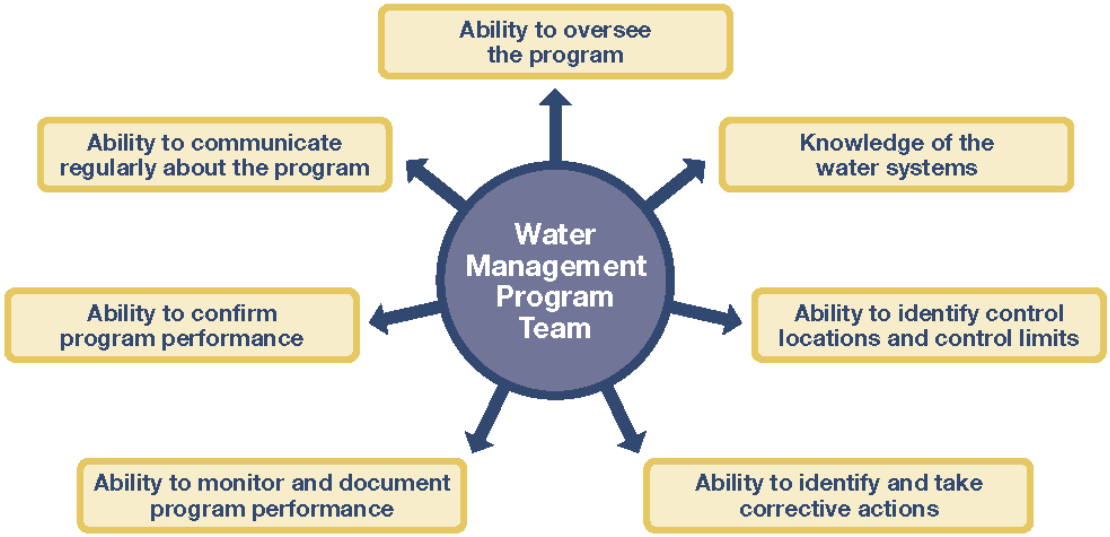
- Data review shows control measures are persistently outside of control limits
- A major maintenance or water service change occurs, such as:
  - New construction
  - Equipment changes (e.g., new hot tub chlorinator pump)
  - Changes in treatment products (e.g., disinfectants)
  - Changes in water usage (e.g., high and low season for hotel)
  - Changes in the municipal water supply
- One or more cases of disease are thought to be associated with your system(s)
- Changes occur in applicable laws, regulations, standards, or guidelines

If an event triggers you to review and update your water management program, remember to:

- Update the process flow diagram, associated control points, control limits, and corrective actions
- Update the written description of your building water systems
- Train those responsible for implementing and monitoring the updated program

# Establish a Water Management Program Team

Certain skills, described in the diagram below, are needed to develop and implement your water management program. These skills would typically be provided by a combination of people, some of whom may have multiple skills (examples shown below).




Consider who among your employees, partners, and outside experts can provide these skills so that you can develop the most effective program possible. Those who might be part of your water management program team include:

- Building owner
- Building manager/administrator
- Maintenance or engineering employees
- Safety officers
- Equipment or chemical suppliers
- Contractors/consultants (e.g., water treatment professionals)
- Certified industrial hygienists
- Microbiologists
- Environmental health specialists
- State and local health officials

**Healthcare Facilities**

The team should also include:

- Someone who understands accreditation standards and licensing requirements
- Someone with expertise in infection prevention
- A clinician with expertise in infectious diseases
- Risk and quality management staff

In some cases, you may need to train your in-house personnel or hire professionals with specific experience in *Legionella* bacteria in building water systems.

# 2 Describe Your Building Water Systems Using Text

## EXAMPLE: BUILDING A

You will need to write a simple description of your building water system and devices you answered YES to on page 2. This description should include details like where the building connects to the municipal water supply, how water is distributed, and where pools, hot tubs, cooling towers, and water heaters or boilers are located. An existing as-built diagram of the plumbing system and fixtures may be useful in developing this description. Below is a description of the water systems* for an example building (Building A). You will see how this text gets turned into a diagram in the next section (page 10).

1. **Water enters** the basement of the property via a 4-inch main from the municipal water line at Maple Street. Water is immediately drawn off to charge the fire suppression system. The rest of the water is sent through cold water distribution. There is backflow prevention throughout the system, including between the cold water distribution and the city water main and between the cold water distribution and the fire suppression system.

   **Note:** *Problems with entering water are usually beyond the building manager's control, such as main breaks or construction that disrupts water service. However, an essential part of a water management program is monitoring water and responding to changes coming in from the municipal water line. You can contact your drinking water provider to report any changes you notice in the quality of water being delivered to your building.*

**Healthcare Facilities**

**Be sure to include descriptions of water sources relevant to:**

- Patient care areas
- Clinical support areas
- Components and devices that can expose patients to contaminated water

You should also develop an ongoing dialogue with your drinking water provider so that you are aware of changes that may affect your building's water supply.

2. **Cold water is distributed** directly to the lit decorative fountain in the lobby, the cooling tower on the roof, the hot tub and pool on the first floor, ice machines on floors 2, 4, 6, 8, and 10, and shower and faucet fixtures in rooms on all 12 floors. All internal plumbing consists of 2-inch copper and polyvinyl chloride (PVC) piping. There is backflow prevention between cold water distribution and the utility lines that serve the cooling tower and hot tub/pool room.

   **Note:** *In warm climates, water in pipes that typically carry cold water may reach a temperature that allows for growth of* Legionella. *Detectable residual disinfectant added by your water provider helps to limit growth of* Legionella *and other germs. Additionally, decorative fountains with submerged lighting and devices such as cooling towers and ice machines may contain areas where cold water can be heated to temperatures that allow* Legionella *to grow. Swimming pools do not usually generate hazardous conditions because they rarely reach adequate temperature for growth or generate water droplets small enough to be inhaled.*

3. **Cold water is heated** to 140°F by two joined 120-gallon water heaters. The heaters supply a 500-gallon storage tank. Cold water is also delivered to an 80-gallon water heater in the basement that serves the kitchen and staff break room.

   **Note:** *Even water heaters set to the correct temperature may contain zones of lower temperature water where cold and hot water mix or where excessive sediment blocks heating elements. Most residual disinfectants are reduced by heating the water.*

4. **Hot water is distributed** to plumbing fixtures in the basement through floor 5 from the joined water heaters in the basement on a direct (non-recirculating) line. Hot water is distributed to floors 6 through 11 from the storage tank with a recirculating line designed to return to the joined water heaters in the basement. Note that hot water is tempered (mixed with cold water) at the fixtures by thermostatic mixing valves.

   **Note:** *Water in direct hot and cold water pipes can pose multiple hazardous conditions. First, the process of heating the water can reduce disinfectant levels. Second, if hot water is allowed to sit in the pipes (stagnation), it might reach a temperature where* Legionella *can grow and could encourage sediment to accumulate or biofilm to form. With recirculating hot water pipes, the greatest risk is that returning water with reduced or no disinfectant cools to a temperature where* Legionella *can grow. If this happens,* Legionella *in the return line can travel to central distribution points and contaminate the entire plumbing system of the building.*

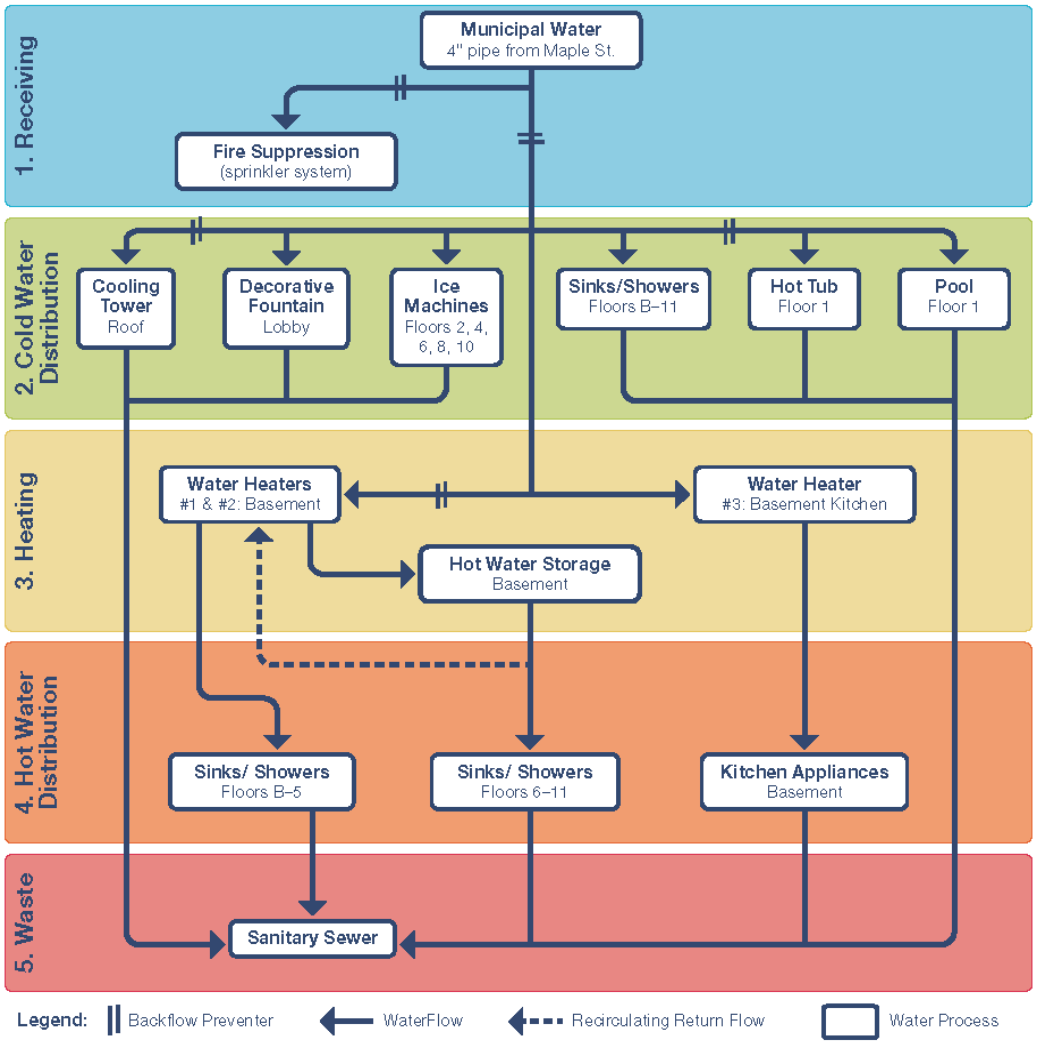
5. **Hot, cold, and tempered waste water is discarded** through the sanitary sewer line.

   **Note:** *It is not known at this time if* Legionella *can grow and spread in sources such as harvested rainwater or reclaimed graywater (i.e., bath, laundry).*

# 2 Describe Your Building Water Systems Using a Flow Diagram

## EXAMPLE: BUILDING A

In addition to developing a written description of your building water systems, you should develop a process flow diagram. Below is an example of a process flow diagram for Building A. Note that this diagram does not need to be as detailed as your building plans. In fact, it's best if the process flow diagram can be understood easily by all members of your team.

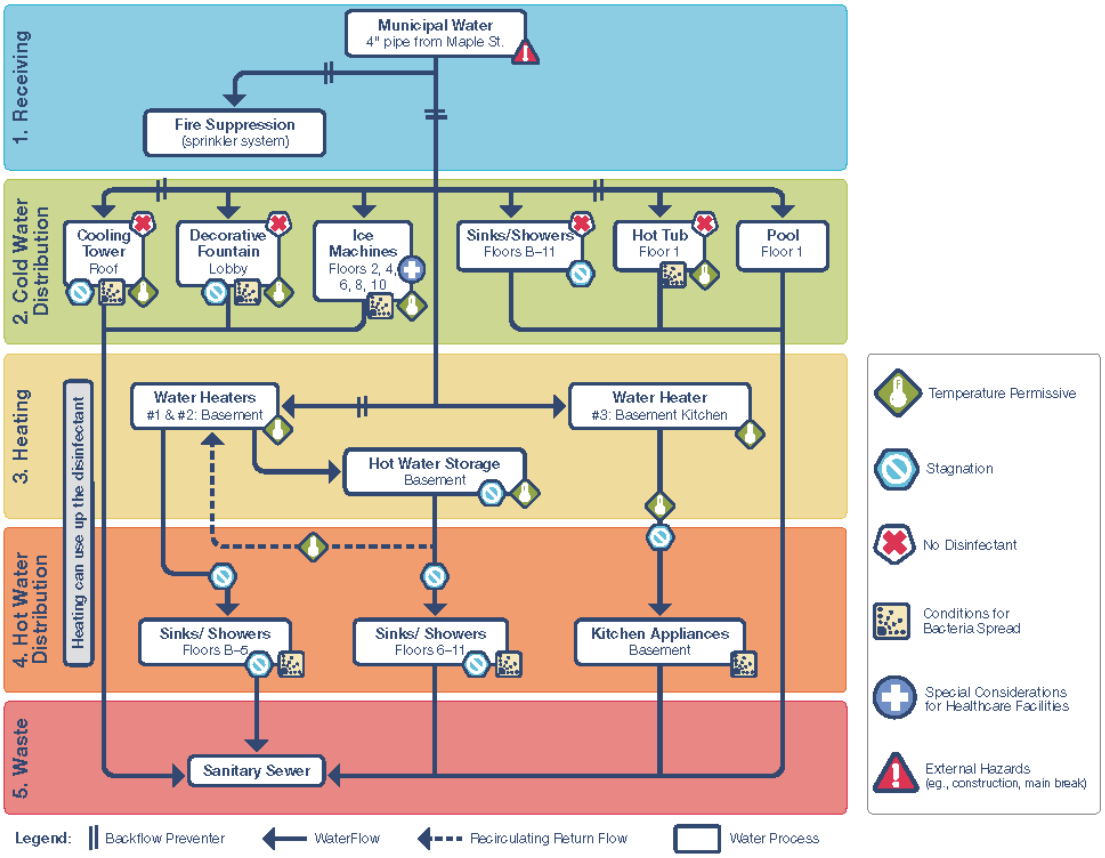


# Identify Areas Where *Legionella* Could Grow & Spread

3

## EXAMPLE: BUILDING A

Once you have developed your process flow diagram, identify where potentially hazardous conditions could occur in your building water systems. The below diagram points out locations and types of hazardous conditions you could expect in Building A. Each potentially hazardous condition should be addressed individually with a control point, measure, and limit.




### Healthcare Facilities

Think about:

- Areas where medical procedures may expose patients to water droplets, such as hydrotherapy
- Areas where patients are more vulnerable to infection, such as bone marrow transplant units, oncology floors, or intensive care units

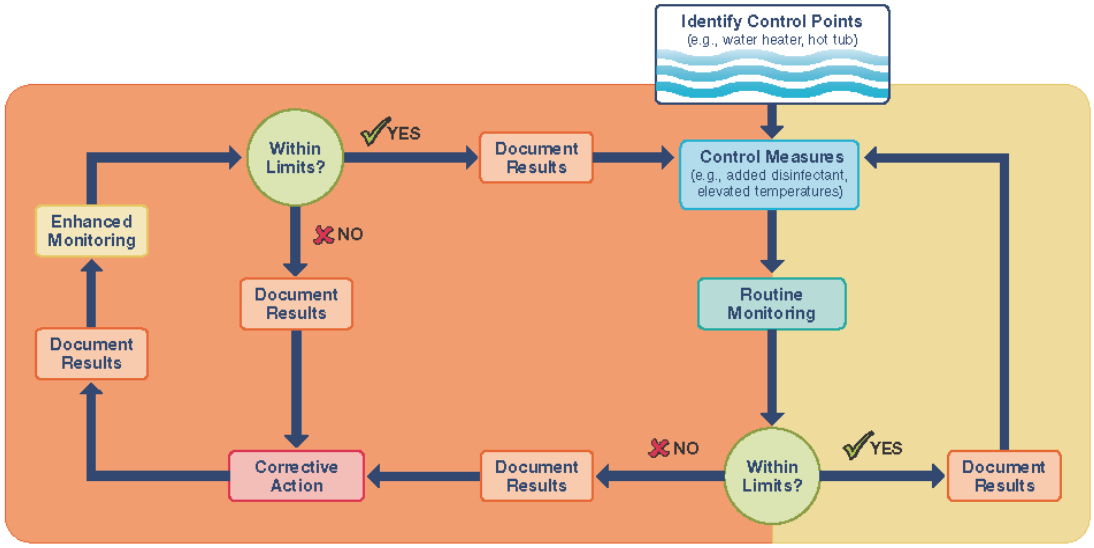
In Building A, the ice machine is included to illustrate that patients with problems swallowing may be at increased risk for *Legionella* spread by aspiration.

*Disclaimer: Example content is provided for illustrative purposes only and is not intended to be relevant to all buildings.*

Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

# 3 Control Measures & Corrective Actions: The Basics

The diagram below shows the process of implementing and monitoring control measures. If you find that a control limit (i.e., temperature levels, disinfectant levels) is not being met, you need to take corrective actions to get conditions back to within an acceptable range. The right side, in yellow, illustrates the routine process of monitoring control measures to make sure they are within limits. The left side, in orange, shows the process of what to do if control measures are found to be outside of their limits.




Remember, any time there is a suspected case of Legionnaires' disease associated with your building you should:

- Contact your local and/or state health department or work with them if they contact you
- Notify anyone who could be affected by the growth and spread of *Legionella* in your building if the health department asks you to
- Decontaminate the building water systems if necessary (you may need to get additional help from outside experts)
- Review the water management program and revise it, if necessary

## Healthcare Facilities

**In addition to the steps listed above that you would take in all buildings, if a case of healthcare-associated Legionnaires' disease is discovered in a healthcare facility:**

- Make sure the person with expertise in infection prevention on your team is aware
- **Important:** Tell clinicians so they can test patients with healthcare-associated pneumonia for Legionnaires' disease with both culture of lower respiratory secretions and the *Legionella* urinary antigen test
- Report the case to your local and/or state health department; a full investigation may be needed

**For more details on identifying and investigating Legionnaires' disease cases in healthcare facilities, see page 24.**

# Decide Where Control Measures Should Be Applied

4

Control measures and limits should be established for each control point. See the diagram on the next page for the types of monitoring that could occur in Building A. You will need to monitor to ensure your control measures are performing as designed. Control limits, in which a chemical or physical parameter must be maintained, should include a minimum and a maximum value.

Examples of chemical and physical control measures and limits to reduce the risk of *Legionella* growth:

- Water quality should be measured throughout the system to ensure that changes that may lead to *Legionella* growth (such as a drop in chlorine levels) are not occurring.
- Water heaters should be maintained at appropriate temperatures.
- Decorative fountains should be kept free of debris and visible biofilm.
- Disinfectant and other chemical levels in cooling towers and hot tubs should be continuously maintained and regularly monitored. Surfaces with any visible biofilm (i.e., slime) should be cleaned.

## Healthcare Facilities

**Clinicians should test patients with healthcare-associated pneumonia (pneumonia with onset ≥48 hours after admission) for Legionnaires' disease. This is especially important among patients at increased risk for developing Legionnaires' disease (see Appendix B), among patients with severe pneumonia (particularly those requiring intensive care), or if any of the following are identified in your facility:**

- Other patients with healthcare-associated Legionnaires' disease diagnosed in the past 12 months
- Positive environmental tests for *Legionella* in the past 2 months
- Current changes in water quality that may lead to *Legionella* growth (such as low chlorine levels)

The preferred diagnostic tests for Legionnaires' disease are culture of lower respiratory secretions on selective media and the *Legionella* urinary antigen test.

Additionally, certain commonly-encountered changes in building water system design or management might require increasing the extent and frequency of monitoring. It's a good idea to anticipate additional hazardous conditions that could be associated with scheduled or unanticipated changes in water quality, such as:

- System start up
- System shut down
- Regularly scheduled maintenance
- Renovations, construction, and installation of new equipment on your property
- Equipment failure
- Water main break or other service interruptions

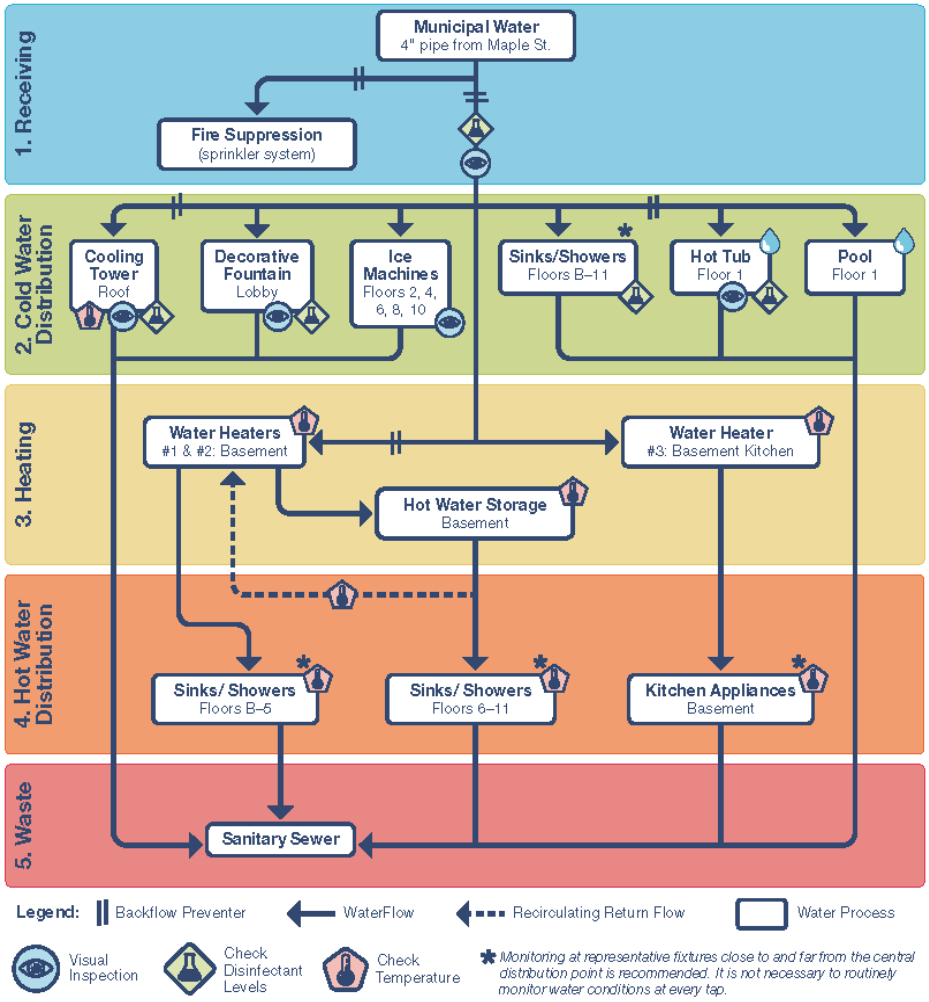
## Anti-scald Regulation

You should follow local and state anti-scald regulations. However, maximum temperatures allowed by your state may be too low to limit *Legionella* growth. Engineering controls that mix hot and cold water together at or near the point of use can reduce the risk of scalding while allowing water in pipes to remain hot enough to limit *Legionella* growth.

# 4 Decide How to Monitor Your Control Measures

## EXAMPLE: BUILDING A

The diagram below shows which types of monitoring could occur at different locations within Building A's water system to reduce the risk of growth and spread of *Legionella*.




*Disclaimer: Example content is provided for illustrative purposes only and is not intended to be relevant to all buildings.*

Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

**Note:** *In addition to whatever you do to prevent* Legionella, *state and local regulations may exist that govern the design, construction, operation, and maintenance of public aquatic facilities (e.g., pools and hot tubs). See CDC's Model Aquatic Health Code at www.cdc.gov/mahc/index.html for helpful information, but this document is not a substitute for state and local regulations.*

**Note:** *Heterotrophic plate counts can aid in your monitoring program as an indicator of water quality, but should not be used as a control measure.*

# Establish Ways to Intervene When Control Limits Are Not Met

5

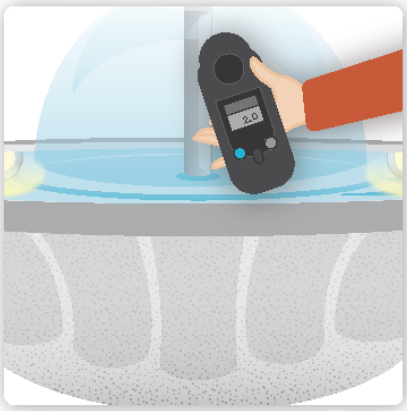
## CORRECTIVE ACTION EXAMPLES

Building water systems are dynamic. You should plan for your monitoring results to vary over time and be prepared to apply corrective actions. **Corrective actions** are taken in response to systems performing outside of control limits. The following are examples of corrective actions.

### Example 1—Biofilm growth in the decorative fountain

1. During her weekly inspection of the fountain in the first floor lobby, Michelle Patterson notes that the fountain walls have accumulated a slimy growth.

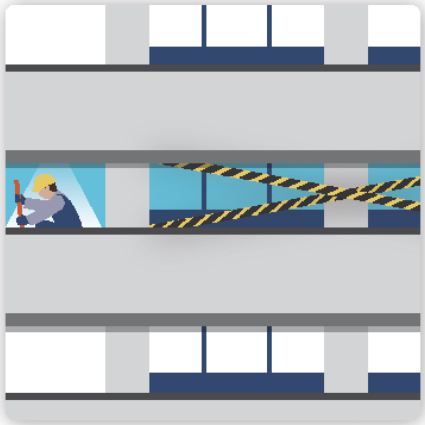

2. As dictated by her water management program, Michelle immediately shuts off the fountain, drains it to the sanitary sewer, and scrubs it with a detergent recommended by the manufacturer.



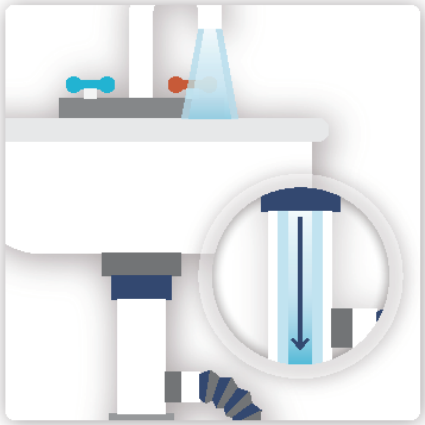

3. She then follows the program's start up procedure to refill the fountain with water and checks the residual disinfectant levels to make sure that they are within control limits.

4. Michelle documents her observations and the performance of interim cleaning in her log book. She informs her supervisor.

## Example 2—Unoccupied floor



1. The eighth floor of the building is being renovated and is closed to the public. Jason Hernandez understands that this may cause a temporary hazardous condition because water usage will decrease, which means that stagnation is possible.

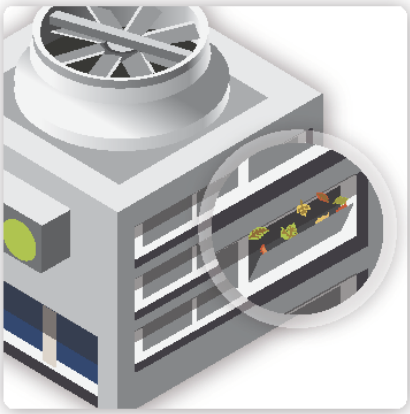


2. After discussing the issue with his supervisor, Jason counteracts the potential for stagnation by daily flushing of the sinks and fixtures with hot and cold water in several rooms including those at the end of the hall, which are farthest from the vertical pipe serving that floor (riser).

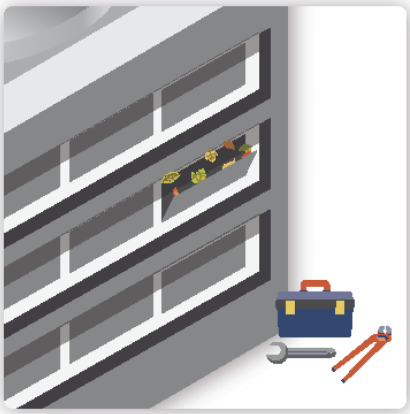
3. Jason also increases the frequency of measuring temperature and chlorine levels on the eighth floor from weekly to daily for the duration of the renovation.

4. He documents the method and duration of flushing and records his daily temperature and chlorine readings in his log book. He reviews his documentation with his supervisor.

## Example 3—Debris in the cooling tower



1. During weekly inspection of the cooling tower, Michelle discovers that leaf litter has accumulated in the reservoir.



2. Upon further investigation, she finds that a panel has become dislodged, allowing windblown debris to enter.

3. After replacing the panel and skimming out the debris, Michelle checks the disinfectant levels and performs a heterotrophic plate count as an indicator of water quality.

4. She documents her actions in her log book. She also makes a note to check the disinfectant levels daily for a week to make sure that the cooling tower remains within control limits. She reviews her actions and documentation with her supervisor.

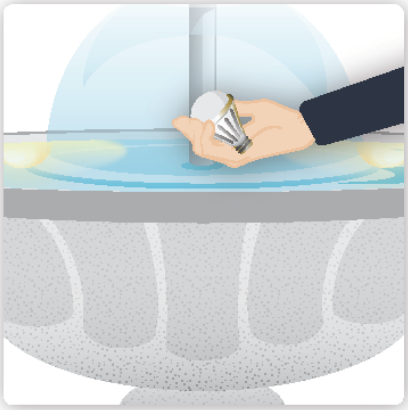
# 5 CONTINGENCY RESPONSE EXAMPLES

Even the most closely monitored systems will sometimes require adjustments, as shown in the following examples. You should be prepared to respond, even to unexpected problems, based on your knowledge of the building water systems and how *Legionella* grows and spreads. You may need to initiate a customized contingency response to gain control of a building water system. **Contingency responses** may involve several steps and often require follow up. A contingency response is always required when a case of Legionnaires' disease has been linked to a building and is also appropriate in other situations.

## Example 1—Biofilm growth in the fountain

1. During the annual review of the water management program, supervisor Anson Cho notes that Michelle and Jason performed six interim cleanings of the lobby fountain due to excessive biofilm growth in the past year.

2. Upon further review of the logs, he discovers that the biofilm growth was observed near the inner wall where incandescent lighting illuminates the water.



3. Anson decides to replace the incandescent bulbs with LED bulbs to prevent the lights from heating the water to a temperature that allows biofilm to grow.

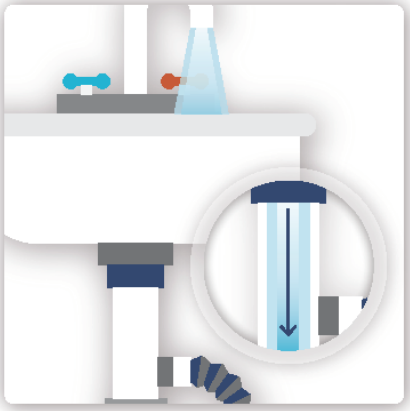
4. After three months of routine inspections show that this corrective action reduces biofilm growth and eliminates the need for interim cleaning, Anson amends the water management program to specify use of only LED bulbs in the fountain and he informs the owner.

***Disclaimer: Example content is provided for illustrative purposes only and is not intended to be relevant to all buildings.***

Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

## Example 2—Water main break

1. Jason receives several complaints from building occupants of foul-tasting water. He also notes a brownish tint to the water entering the building during his daily visual inspection. Jason immediately contacts the water provider and discovers that there was a water main break nearby but that a boil water advisory was not issued. He sends a notice to building occupants about the main break and that they should limit water usage for the next 4 hours while facilities clear the line.



2. To improve building water quality, Jason flushes the water at multiple sinks and fixtures near the entry until the water runs clear and falls within established water quality parameter control limits. He also flushes fixtures in areas where he received taste and odor complaints and at pre-determined flushing locations per the water management program.

3. Jason increases the frequency of measuring chlorine levels at the taps from weekly to daily to ensure that adequate residual disinfectant is moving through the system.

4. Jason informs his supervisor, documents his actions, and records chlorine readings in his log book.

## Example 3—Broken chlorinator in the hot tub

1. Michelle notes chlorine levels of zero within the hot tub during her daily inspection. On further inspection she notices that disinfectant in the automatic delivery system reservoir is full.

2. Michelle immediately closes the hot tub and calls the pool contractor.

3. The contractor arrives the next day to discover that the chlorinator pump has malfunctioned and replaces the unit.

4. Michelle documents the action and follows the water management program's protocol for start up, which includes cleaning the hot tub, shocking it with a high dose of disinfectant, and back-flushing the filter. Michelle also recommends that the supervisor amend the water management program to include a daily check of equipment operation and disinfectant levels in the reservoir, in addition to the daily visual inspection and chlorine measurements, so that such equipment failures may be detected more quickly in the future.

# Make Sure the Program Is Running as Designed & Is Effective

6

## Verification: Are we doing what we said we would do?

Your program team should establish procedures to confirm, both initially and on an ongoing basis, that the water management program is being implemented as designed. This step is called "verification." For example, if you said you would test the hot tub daily for chlorine and record and communicate those results, have you been doing that? If you found a problem, did you take the action included in your program?

People should not verify the program activity for which they are responsible. For example, if one person is responsible for maintaining the hot tub and another is responsible for the cooling tower, they could verify each other's work, not their own.

### Healthcare Facilities

Water management program teams that include infection control staff may also choose to use their facility's routine surveillance for healthcare-associated Legionnaires' disease to validate their program. To look for healthcare-associated cases, histories for all patients with diagnosed Legionnaires' disease should be reviewed for possible healthcare exposures and certain patients with healthcare-associated pneumonia (see gray box on page 13) should be tested for Legionnaires' disease.

## Validation: Is our program actually working?

Now that you have a water management program, you need to be sure that it is effective. Your program team should establish procedures to confirm, both initially and on an ongoing basis, that the water management program effectively controls the hazardous conditions throughout the building water systems. This step is called "validation."

Environmental testing for *Legionella* is useful to validate the effectiveness of control measures. The program team should determine if environmental testing for *Legionella* should be performed and, if so, how test results will be used to validate the program. Factors that might make testing for *Legionella* more important include:

- Having difficulty maintaining the building water systems within control limits
- Having a prior history of Legionnaires' disease associated with the building water systems
- Being a healthcare facility that provides inpatient services to people who are at increased risk for Legionnaires' disease (see Appendix B)

If the program team decides to test for *Legionella*, then the testing protocol should be specified and documented in advance. You should also be familiar with and adhere to local and state regulations and accreditation standards for this testing.

# 7 Document & Communicate All the Activities of Your Water Management Program

## Documentation

Now that you have done all of the work required to create your water management program, write it down. This information will be important to improve your program and if you or others want to review your records. Your written program should include at least the following:

- Program team, including names, titles, contact information, and roles on the team
- Building description, including location, age, uses, and occupants and visitors
- Water system description, including general summary, uses of water, aerosol-generating devices (e.g., hot tubs, decorative fountains, cooling towers), and process flow diagrams
- Control measures, including points in the system where critical limits can be monitored and where control can be applied
- Confirmatory procedures, including verification steps to show that the program is being followed as written and validation to show that the program is effective
- Document collection and transport methods and which lab will perform the testing if environmental testing is conducted

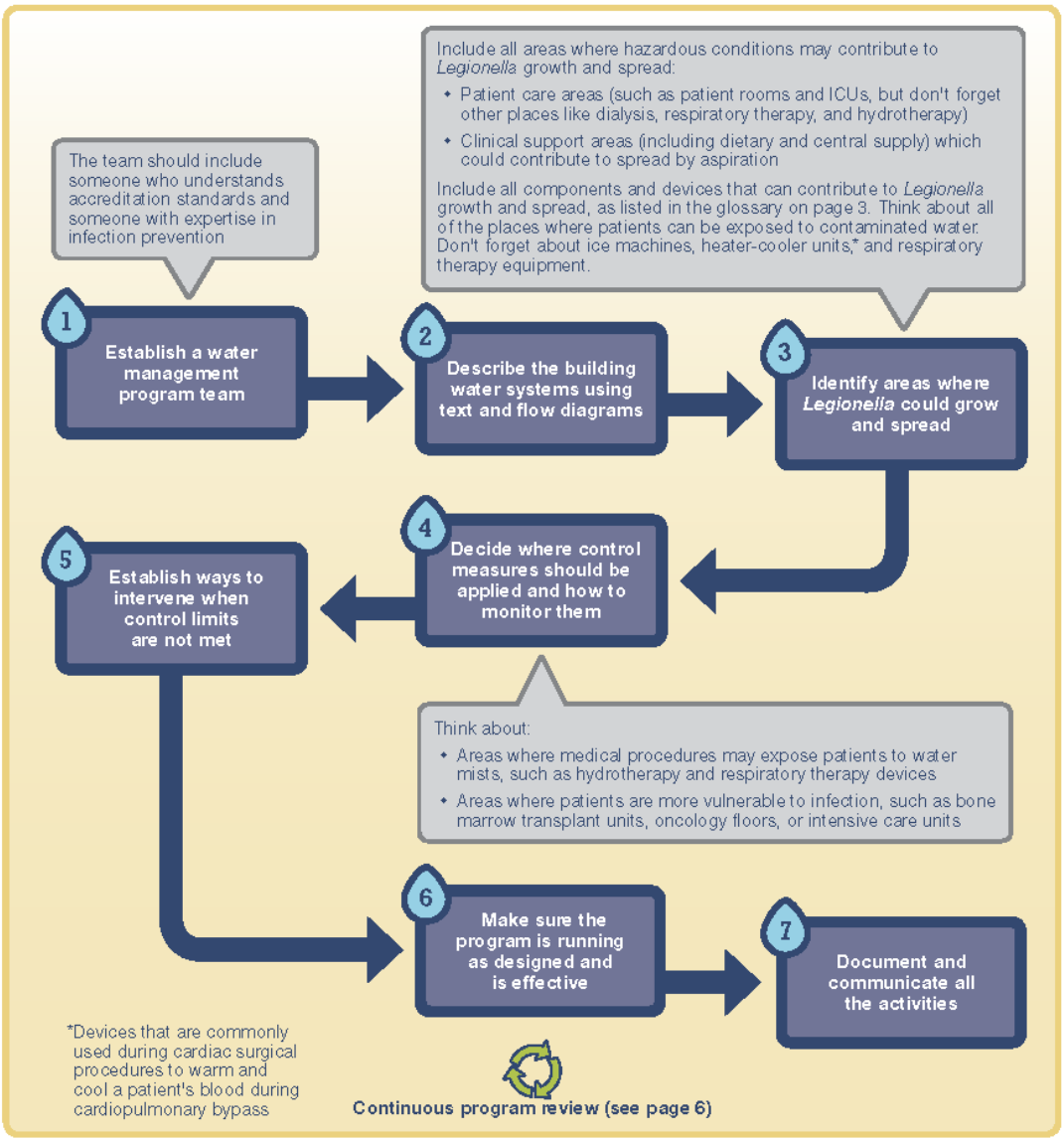
## Communication

You have worked hard to develop your water management program and you have carefully documented all aspects of it. Resist the temptation to put it on a shelf and walk away. Consider notifying building occupants that you have a plan in place to keep the building water systems safe, just as you would for an elevator inspection. Be sure to communicate with your employees and colleagues about your program on a regular basis and train those responsible for implementing and monitoring the program. Use this communication as an opportunity to identify strategies for improving the management and efficiency of your water systems.

# Special Considerations for Healthcare Facilities

## ELEMENTS OF A WATER MANAGEMENT PROGRAM

Developing and maintaining a water management program in healthcare facilities requires a few more considerations than the ones explained on page 6. All healthcare facilities should have a *Legionella* water management program.

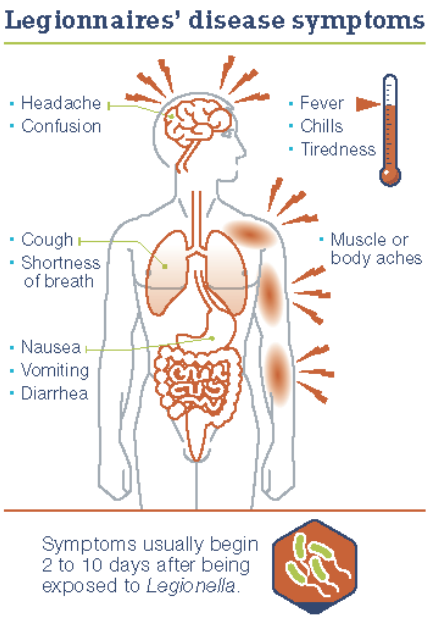



Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

**Note:** *ASHRAE 188 Normative Annex A applies to accredited healthcare facilities that have a Certification Board of Infection Control and Epidemiology (CBIC) certified infection preventionist or a master's-level epidemiologist.*

# IDENTIFYING & INVESTIGATING LEGIONNAIRES' DISEASE CASES

Healthcare facilities are often uniquely positioned to identify and respond to cases of Legionnaires' disease. A healthcare facility's water management program to limit *Legionella* growth and spread should include the actions to take when a patient is diagnosed with Legionnaires' disease or environmental triggers occur. If you decide to conduct a full investigation of the source of an infection, key elements should be included, as noted on the next page. A full investigation following a diagnosis of Legionnaires' disease can help determine whether the infection was acquired in the facility or the community.




Clinicians should test patients with healthcare-associated pneumonia (pneumonia with onset ≥48 hours after admission) for Legionnaires' disease. This is especially important among patients at increased risk for developing Legionnaires' disease (see Appendix B), among patients with severe pneumonia (particularly those requiring intensive care), or if any of the following are identified in your facility:

- Other patients with healthcare-associated Legionnaires' disease diagnosed in the past 12 months
- Positive environmental tests for *Legionella* in the past 2 months
- Current changes in water quality that may lead to *Legionella* growth (e.g., low residual disinfectant levels, temperatures permissive to *Legionella* growth, nearby construction, areas of stagnation)

Other patients, besides those with healthcare-associated pneumonia, should also be tested for Legionnaires' disease (see Appendix B). The preferred diagnostic tests for Legionnaires' disease are culture of lower respiratory secretions on selective media and the *Legionella* urinary antigen test.

## Perform a full investigation for the source of *Legionella* when:

- ≥1 case of **definite** healthcare-associated Legionnaires' disease (a case in a patient who spent the entire 10 days prior to onset of illness in the facility) is identified at any time
- ≥2 cases of **possible** healthcare-associated Legionnaires' disease (cases in patients who spent part of the 10 days before symptoms began at the same facility) are identified within 12 months of each other (note that under certain circumstances, during a cooling tower outbreak for example, the interval may be shorter)

## Key elements of a full public health investigation include:

- Working with healthcare facility leaders*
- Performing a retrospective review of cases in the health department surveillance database to identify earlier cases with possible exposures to the healthcare facility
- Developing a line list of possible and definite cases associated with the healthcare facility
- Working with infection control and clinical staff to actively identify all new and recent patients with healthcare-associated pneumonia and test them for *Legionella* using both culture of lower respiratory secretions on selective media and the *Legionella* urinary antigen test
- Obtaining postmortem specimens, when applicable
- Considering recommendations for restricting water in the facility or other immediate control measures
- Performing an environmental assessment to evaluate possible environmental exposures
- Performing environmental sampling, as indicated by the environmental assessment
- Decontaminating possible environmental source(s)
- Subtyping and comparing clinical and environmental isolates, if available
- Working with healthcare facility leaders to determine how long heightened disease surveillance and environmental sampling should continue to ensure the outbreak is over
- Working with healthcare facility leaders to review and possibly revise the water management program, if indicated

* Leaders may include infection control practitioners, facility managers, hospital administrators, quality assurance staff, or others.

Reference: ASHRAE 188: *Legionellosis: Risk Management for Building Water Systems* June 26, 2015. ASHRAE: Atlanta. www.ashrae.org

**Note:** *ASHRAE 188 Normative Annex A applies to accredited healthcare facilities that have a Certification Board of Infection Control and Epidemiology (CBIC) certified infection preventionist or a master's-level epidemiologist.*

# References & Resources

There are many references and resources that can help you develop and implement your *Legionella* water management program, some of which are listed below.

## Standard


**Standard 188—Legionellosis: Risk Management for Building Water Systems (ANSI Approved)**
ASHRAE
Published 2015
www.techstreet.com/ashrae/products/1897561

## Guidelines


**Guideline 12—Minimizing the Risk of Legionellosis Associated with Building Water Systems**
ASHRAE
Published 2000
www.techstreet.com/ashrae/products/232891
(currently under revision)


**Legionellosis Guideline: Best Practices for Control of *Legionella***
Cooling Technology Institute
Published 2008
www.cti.org/downloads/WTP-148.pdf

**Model Aquatic Health Code Guidance**
Centers for Disease Control and Prevention
Published 2014
www.cdc.gov/mahc/index.html

## Laboratory Resources


**ELITE Program**
Centers for Disease Control and Prevention and Wisconsin State Laboratory of Hygiene
wwwn.cdc.gov/ELITE/Public/EliteHome.aspx

## Planning Guides & Toolkits

**Emergency Water Supply Planning Guide for Hospitals and Healthcare Facilities**
Centers for Disease Control and Prevention, American Water Works Association
Published 2012
www.cdc.gov/healthywater/pdf/emergency/emergency-water-supply-planning-guide.pdf


**Drinking Water Advisory Communication Toolbox**
US Department of Health & Human Services, Centers for Disease Control and Prevention, Environmental Protection Agency, American Water Works Association
Published 2013
www.cdc.gov/healthywater/pdf/emergency/drinking-water-advisory-communication-toolbox.pdf

**Investigation Tools for Clusters and Outbreaks of Legionnaires' Disease**
Centers for Disease Control and Prevention
www.cdc.gov/legionella/outbreak-toolkit

## Healthcare Resources

Sehulster LM, Chinn RYW, Arduino MJ, Carpenter J, Donlan R, Ashford D, et al. **Guidelines for Environmental Infection Control in Health-care Facilities. Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC).** *MMWR.* 2003;52 (RR-10): 1–42.
www.cdc.gov/mmwr/preview/mmwrhtml/rr5210a1.htm

Kohn WG, Collins AS, Cleveland JL, Harte JA, Eklund KJ, Malvitz DM. **Guidelines for Infection Control in Dental Health-Care Settings—2003.** *MMWR.* 2003;52(RR-17):1–61.
www.cdc.gov/mmwr/preview/mmwrhtml/rr5217a1.htm

Tablan OC, Anderson LJ, Besser R, Bridges MD, Hajjeh R. **Guidelines for Preventing Health-care-associated Pneumonia, 2003: Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee.** *MMWR.* 2004;53(RR-3):1–36.
www.cdc.gov/mmwr/preview/mmwrhtml/rr5303a1.htm

**Prevention of Healthcare-associated *Legionella* Disease and Scald Injury from Potable Water Distribution Systems**
Veterans Health Administration
Published 2014
www.va.gov/vhapublications/ViewPublication.asp?pub_ID=3033

## Legionnaires' Disease Information

**Legionnaires' Disease Website**
Centers for Disease Control and Prevention
www.cdc.gov/legionella

## Laws

**Safe Drinking Water Act**
Environmental Protection Agency
www.epa.gov/sdwa

## Literature Reviews

**Technologies for *Legionella* Control in Premise Plumbing Systems**
Environmental Protection Agency
www.epa.gov/ground-water-and-drinking-water/technologies-legionella-control-premise-plumbing-systems

# Appendix A

# LEGIONNAIRES' DISEASE

Legionnaires' (LEE-juh-nares) disease is a very serious type of pneumonia (lung infection) caused by bacteria called *Legionella*. If you develop pneumonia symptoms and may have been exposed to *Legionella*, see a doctor right away. Be sure to mention if you have used a hot tub, spent any nights away from home, or stayed in a hospital in the last two weeks.

## Legionnaires' Disease Can Cause Pneumonia Symptoms

Signs and symptoms of Legionnaires' disease can include:

- Cough
- Muscle aches
- High fever
- Shortness of breath
- Headache

Doctors use chest x-rays or physical exams to check for pneumonia. Your doctor may also order tests on a sample of urine and sputum (phlegm) to see if your lung infection is caused by *Legionella*.

## Legionnaires' Disease Is Serious, but Can Be Treated with Antibiotics

Legionnaires' disease is treated with antibiotics (drugs that kill bacteria in the body). Most people who get sick need care in a hospital but make a full recovery. However, about 1 out of 10 people who get Legionnaires' disease will die from the infection.

## Certain People Are at Increased Risk for Legionnaires' Disease

Most healthy people do not get Legionnaires' disease after being exposed to *Legionella*. Being 50 years or older or having certain risk factors can increase your chances of getting sick. These risk factors include:

- Being a current or former smoker
- Having chronic lung disease, such as emphysema or chronic obstructive pulmonary disease (COPD)
- Having a weakened immune system from diseases like cancer, diabetes, or kidney failure
- Taking medication that weakens your immune system

## *Legionella* Are Usually Spread through Water Droplets in the Air

In nature, *Legionella* live in fresh water and rarely cause illness. In man-made settings, *Legionella* can grow if water is not properly maintained. These man-made water sources become a health problem when small droplets of water that contain the bacteria get into the air and people breathe them in. In rare cases, someone breathes in *Legionella* while they are drinking water and it "goes down the wrong pipe" into the lungs. In general, Legionnaires' disease is not spread from one person to another. However, this may be possible in rare cases.

Legionnaires' disease, a type of severe pneumonia, is caused by breathing in small droplets of water that contain *Legionella*.

## Commons Sources of Infection

Outbreaks of Legionnaires' disease are often associated with large or complex water systems, like those found in hospitals, hotels, and cruise ships.

The most likely sources of infection include:

- **Water used for showering (potable water)**
- **Cooling towers (parts of large air conditioning systems)**
- **Decorative fountains**
- **Hot tubs**

cdc.gov/legionella CS260481 03/07/2016

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

# Appendix B

*What Clinicians Need to Know about*

## LEGIONNAIRES' DISEASE

***Legionnaires' disease is a sometimes fatal form of pneumonia that is on the rise in the United States. Unfortunately, this disease is also underrecognized and underdiagnosed. Clinicians are in a unique position to make sure cases are detected, allowing rapid investigation by public health officials and prevention of additional cases.***

### Diagnosis and Testing

Clinical features of Legionnaires' disease include cough, fever, and radiographic pneumonia. Signs and symptoms for Legionnaires' disease are similar to pneumonia caused by other pathogens; the only way to tell if a pneumonia patient has Legionnaires' disease is by getting a specific diagnostic test. Indications that warrant testing include:

- Patients who have failed outpatient antibiotic therapy for community-acquired pneumonia
- Patients with severe pneumonia, in particular those requiring intensive care
- Immunocompromised patients with pneumonia*
- Patients with a travel history (patients who have traveled away from their home within 10 days before the onset of illness)
- All patients with pneumonia in the setting of a Legionnaires' disease outbreak
- Patients at risk for Legionnaires' disease with healthcare-associated pneumonia (pneumonia with onset ≥48 hours after admission)

* Clinicians may also consider testing for Legionnaires' disease in patients with other risk factors for this infection (see page 2).

Testing for healthcare-associated Legionnaires' disease is especially important if any of the following are identified in your facility:

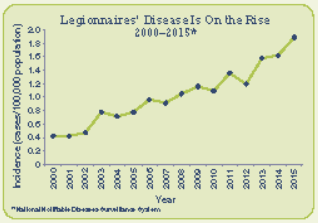
- Other patients with healthcare-associated Legionnaires' disease diagnosed in the past 12 months
- Positive environmental tests for *Legionella* in the past 2 months
- Current changes in water quality that may lead to *Legionella* growth (such as low chlorine levels)

Infection control staff may have more information about these situations in your facility.

**The preferred diagnostic tests for Legionnaires' disease are culture of lower respiratory secretions (e.g., sputum, bronchoalveolar lavage) on selective media and the *Legionella* urinary antigen test.** Serological assays can be nonspecific and are not recommended in most situations. Best practice is to obtain both sputum culture and a urinary antigen test concurrently. Sputum should ideally be obtained prior to antibiotic administration, but antibiotic treatment should not be delayed to facilitate this process. The urinary antigen test can detect *Legionella* infections in some cases for days to weeks after treatment. The urinary antigen test detects *Legionella pneumophila* serogroup 1, the most common cause of Legionnaires' disease; isolation of *Legionella* by culture is important for detection of other species and serogroups and for public health investigation. Molecular techniques can be used to compare clinical isolates to environmental isolates and confirm the outbreak source.

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

**Order both a culture of a lower respiratory specimen and a urinary antigen test when testing patients for *Legionella*.**




In the United States, reported cases of Legionnaires' disease have grown by nearly four and a half times since 2000. More than 6,000 cases of Legionnaires' disease were reported in 2015, but this number is likely an underestimate as the illness is thought to be underdiagnosed.

More illness occurs in the summer and early fall, but Legionnaires' disease can happen any time of year.

## Treatment

If your patient has Legionnaires' disease, see the most recent guidelines for treatment of community-acquired pneumonia (http://bit.ly/CommunityPneumoniaGuide) and hospital-acquired pneumonia (http://bit.ly/HospitalPneumonia). Macrolides and respiratory fluoroquinolones are currently the preferred agents for treating Legionnaires' disease.

## Reporting

Make sure your infection control department or lab are promptly reporting cases of Legionnaires' disease to your local health department. Timely identification and reporting of cases is important, as this allows public health officials to quickly identify and stop potential clusters and outbreaks by linking new cases to previously reported ones.

## Etiology

Legionnaires' disease is a severe form of pneumonia that often requires hospitalization and is fatal in about 10% of cases overall, and in 25% of healthcare-associated cases. Legionnaires' disease is caused by *Legionella* bacteria. There are at least 60 different species of *Legionella*, and most are considered capable of causing disease. However, most disease is caused by *L. pneumophila*, particularly serogroup 1.

## Transmission

While *Legionella* is found in natural, freshwater environments, it can become a health concern in human-made water systems (e.g., plumbing system of large buildings, cooling towers, certain medical devices, decorative fountains, hot tubs) where conditions allow it to multiply and come in contact with vulnerable persons. People contract *Legionella* by inhaling aerosolized water droplets containing the bacteria, or, less commonly, by aspiration of contaminated drinking water. *Legionella* is usually not transmitted from person to person; however, a single episode of person-to-person transmission has been reported. Fortunately, most people exposed to the bacteria do not become ill.

## Risk Factors

Risk factors for developing Legionnaires' disease include:

- Age ≥50 years
- Smoking (current or historical)
- Chronic lung disease, such as emphysema or COPD
- Immune system disorders due to disease or medication
- Systemic malignancy
- Underlying illness, such as diabetes, renal failure, or hepatic failure

## Prevention

The key to preventing Legionnaires' disease is maintenance of the water systems in which *Legionella* may grow. If *Legionella* is found in a healthcare facility's water system, the facility should work to eliminate the bacteria. CDC encourages all building owners, and especially those in healthcare facilities, to develop comprehensive water management programs to reduce the risk of *Legionella* growth and spread. Learn more about how to develop a water management program at www.cdc.gov/legionella/WMPtoolkit.

**Timely reporting of Legionnaires' disease cases is important for controlling clusters and outbreaks.**

## Commons Sources of Infection

Outbreaks of Legionnaires' disease are most often associated with large or complex water systems, like those found in hospitals, long-term care facilities, hotels, and cruise ships.

The most likely sources of infection include:

**Water used for showering (potable water)**

**Cooling towers (parts of large air conditioning systems)**

**Decorative fountains**

**Hot tubs**

cdc.gov/legionella | CS278126-A 05/15/2017

Yucaipa Valley Water District

# Director Memorandum 20-068

**Date:** May 12, 2020

**Prepared By:** Allison M. Edmisten, Chief Financial Officer

**Subject:** Presentation of the Unaudited Financial Report for the Period Ending on April 30, 2020

**Recommendation:** That the Board receive and file the unaudited financial report.

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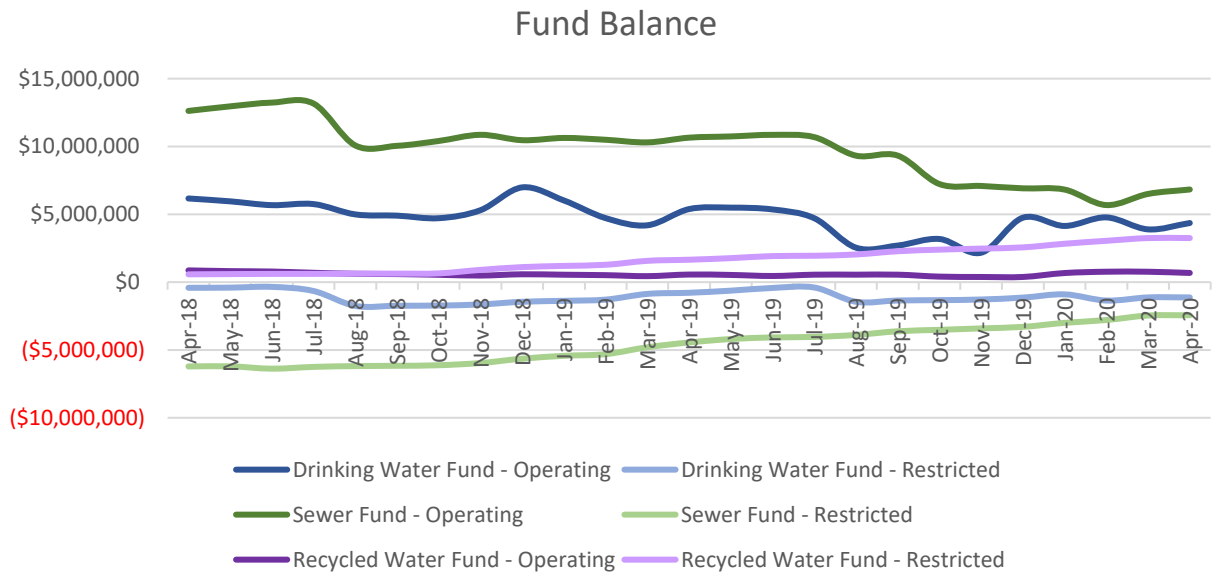
The following unaudited financial report has been prepared by the Administrative Department for your review. The report has been divided into five sections to clearly disseminate information pertaining to the financial status of the District. Please remember that the following financial information has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

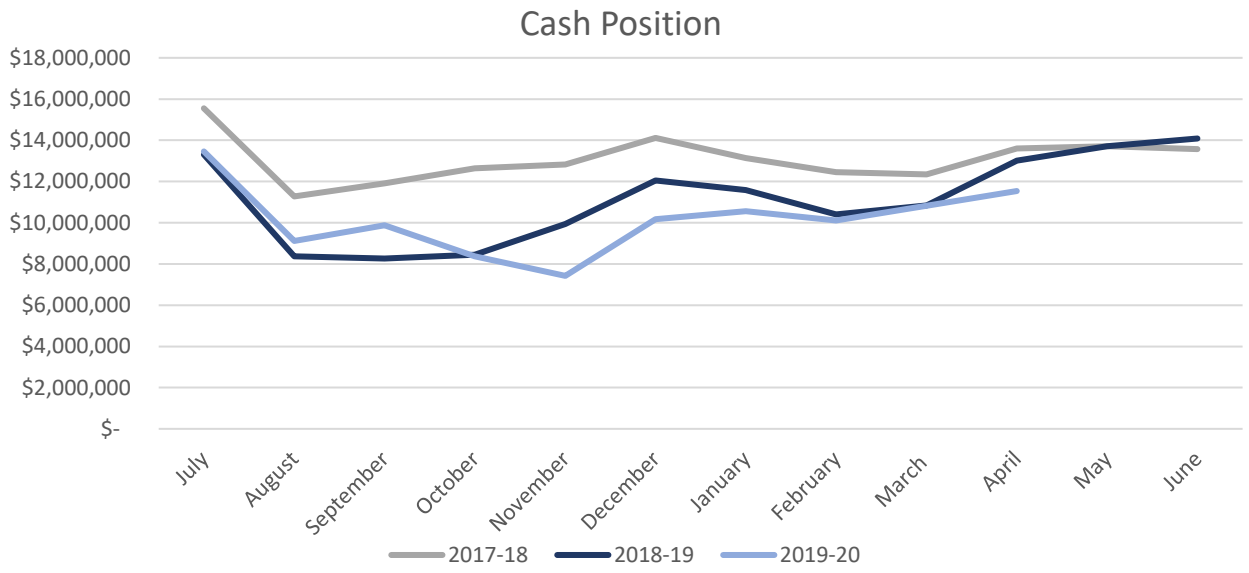
## Cash Fund Balance and Cash Flow Reports

[Detailed information can be found on page 7 to 8 of 25]

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 | $ 4,357,067.20 | $ (1,127,009.60) | $ 3,230,057.60 |
| Sewer Division | $ 6,828,022.06 | $ (2,441,504.54) | $ 4,386,517.52 |
| Recycled Water Division | $ 678,326.44 | $ 3,249,089.91 | $ 3,927,416.35 |
| **Total** | **$ 11,863,415.70** | **$ (319,424.23)** | **$ 11,543,991.47** |






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.

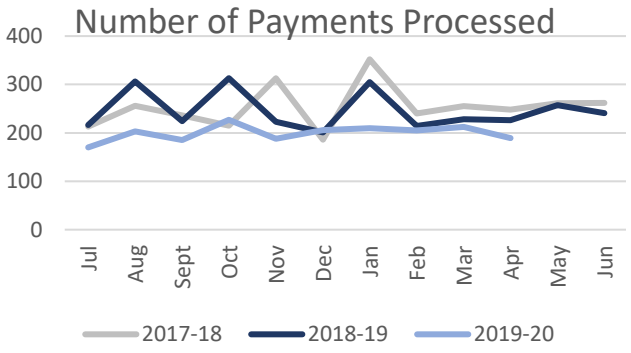
The Cash Flow Report provides a list of the debt service payment due dates and amounts as well as the cash flow requirements for debt service for each month of the fiscal year.

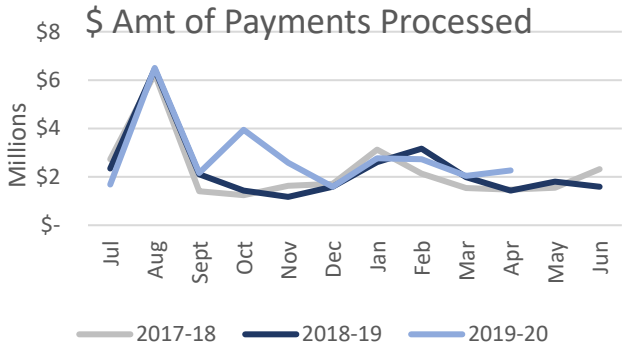
## Cash Disbursement Report

[Detailed information can be found on pages 9 to 13 of 25]

The cash disbursement report lists each check and electronic payment processed during the month of April 2020. 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 | 176 | $ 1,540,120.96 |
| Electronic Payments | 13 | $ 731,555.11 |
| **Total** | **189** | **$ 2,271,676.07** |



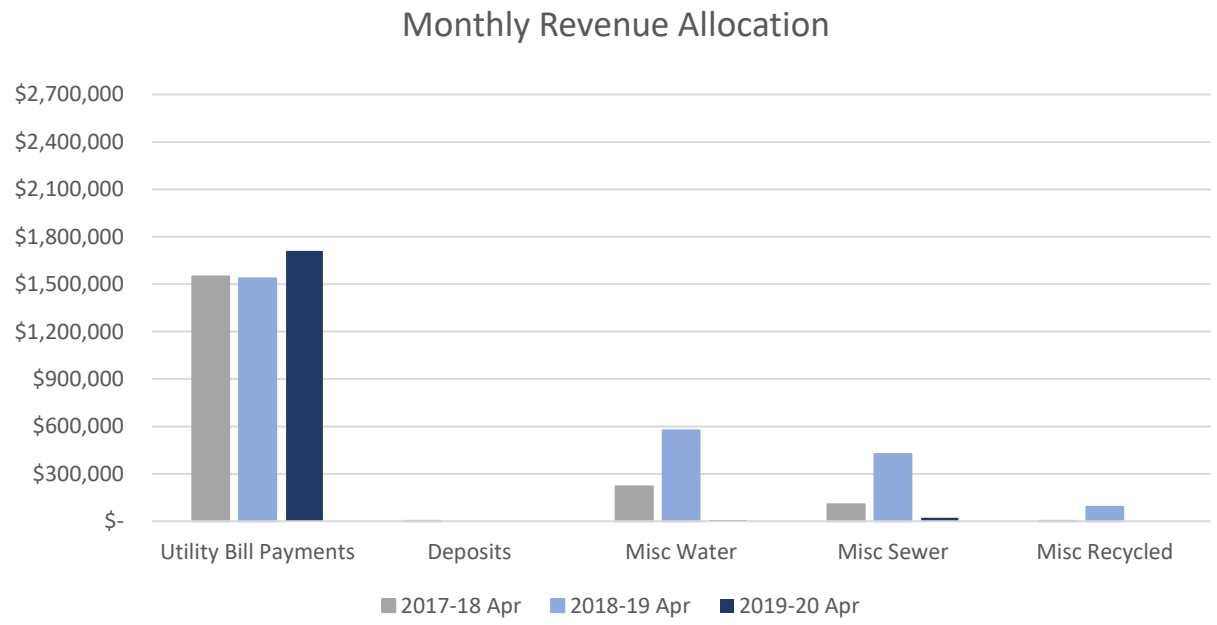
## Financial Account Information

The District currently deposits all revenue received via mail or in person into the Deposit Checking account. All revenue received through Xpress Bill Pay is kept in a separate account and transferred weekly to 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.

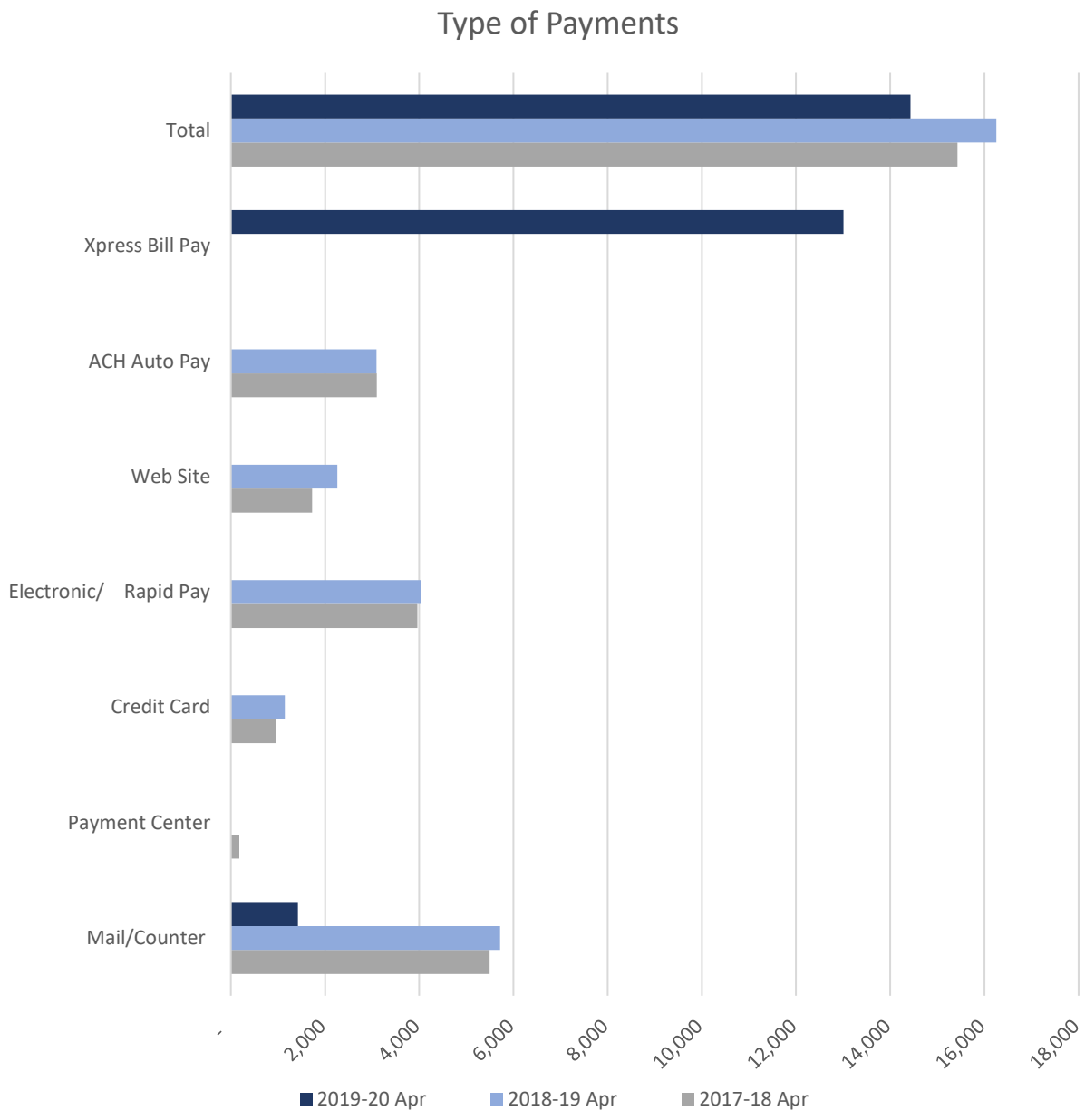
Monthly Revenue Allocation:

| Funding Source | Total |
|---|---|
| Utility Bill Payments | $ 1,710,900.91 |
| Deposits | $ 0.00 |
| Misc. Water Related Activities | $ 5,373.90 |
| Misc. Sewer Related Activities | $ 20,961.00 |
| Misc. Recycled Related Activities | $ 0.00 |
| **Total** | **$ 1,737,235.81** |



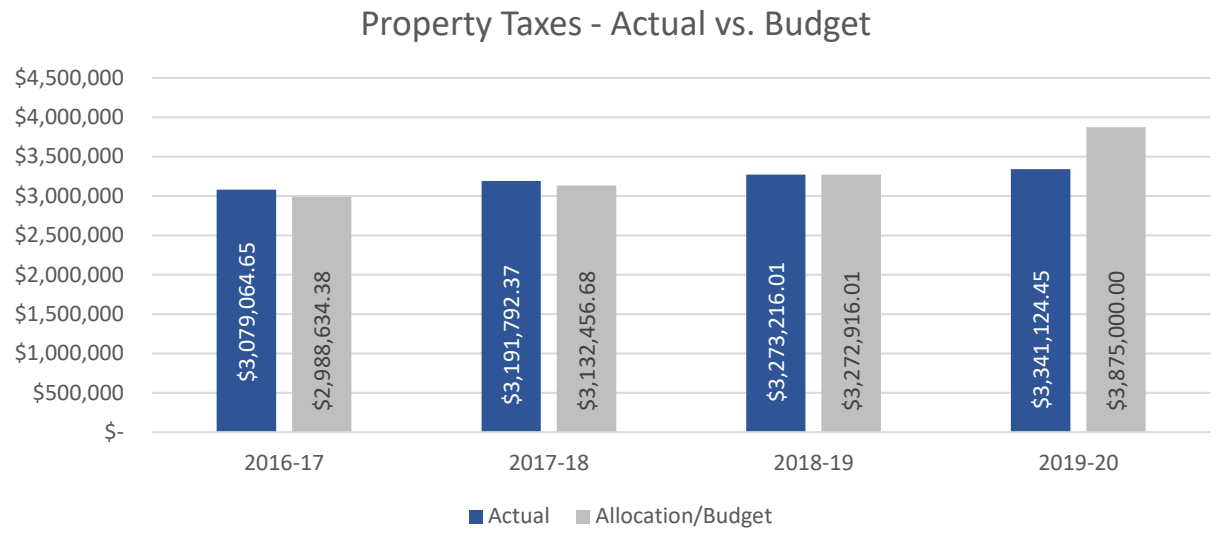
Summary of Utility Bill Payments:

| Payment Method | Number of Payments | % of Total Received |
|---|---|---|
| Mail/Counter | 1,421 | 9.85% |
| Xpress Bill Pay | 13,010 | 90.15% |
| **Total** | **14,431** | **100.00%** |



Summary of Property Tax Revenue:

| Current Month | Year-to-Date | Budget Amount | Percentage |
|---|---|---|---|
| Property Taxes | $ 3,341,124 | $ 3,875,000 | 86.22% |




## Investment Summary

[Detailed information can be found on pages 14 to 15 of 25]

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 2019-20 Detail Budget Status

[Detailed information can be found on pages 16 to 25 of 25]

The revenue and expense budget status for the 2019-20 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 April 30, 2020 (72% of Budget Cycle)**

| Division | Current Month | Year-to-Date | Budget Amount | Percentage |
|---|---|---|---|---|
| Water | $ 1,863,569 | $ 12,009,211 | $ 14,475,622 | 82.96% |
| Sewer | $ 968,843 | $ 10,643,951 | $ 13,584,986 | 78.35% |
| Recycled Water | $ 185,298 | $ 1,779,244 | $ 1,301,447 | 136.71% |
| **District Revenue** | **$ 3,017,710** | **$ 24,432,407** | **$ 29,362,055** | **83.21%** |

**Summary of Water Budget vs. Expenses**
**As of April 30, 2020 (72% of Budget Cycle)**

| Department | Current Month | Year-to-Date | Budget Amount | Percentage |
|---|---|---|---|---|
| Water Resources | $ 188,126 | $ 3,492,601 | $ 4,962,623 | 70.38% |
| Public Works | $ 189,190 | $ 2,442,943 | $ 3,176,293 | 76.91% |
| Administration | $ 233,291 | $ 3,174,275 | $ 4,044,094 | 78.49% |
| Long Term Debt | $ - | $ 2,291,361 | $ 2,292,612 | 99.95% |
| Asset Acquisition | $ - | $ - | $ - | 0.00% |
| **TOTAL** | **$ 610,608** | **$ 11,401,181** | **$ 14,475,622** | **78.76%** |

**Summary of Sewer Budget vs. Expenses**
**As of April 30, 2020 (72% of Budget Cycle)**

| Department | Current Month | Year-to-Date | Budget Amount | Percentage |
|---|---|---|---|---|
| Treatment | $ 259,970 | $ 3,609,440 | $ 4,198,162 | 85.98% |
| Administration | $ 140,162 | $ 2,796,096 | $ 4,170,789 | 67.04% |
| Environmental Control | $ 82,789 | $ 1,059,191 | $ 1,382,316 | 76.62% |
| Long Term Debt | $ - | $ 3,833,694 | $ 3,833,719 | 100.00% |
| Asset Acquisition | $ - | $ - | $ - | 0.00% |
| **TOTAL** | **$ 482,921** | **$ 11,298,422** | **$ 13,584,986** | **83.17%** |

**Summary of Recycled Water Budget vs. Expenses**
**As of April 30, 2020 (72% of Budget Cycle)**

| Department | Current Month | Year-to-Date | Budget Amount | Percentage |
|---|---|---|---|---|
| Administration | $ 69,451 | $ 761,132 | $ 1,301,447 | 58.48% |
| **TOTAL** | **$ 69,451** | **$ 761,132** | **$ 1,301,447** | **58.48%** |
| | | | | |
| **District Expenses** | **$ 1,162,980** | **$ 23,460,735** | **$ 29,362,055** | **79.90%** |

# Cash Fund Balance Report - April 2020

| | 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 | $ | (6,036,620.05) |
| | *FCC - Future YVRWFF Phase II & III | 02-10403 | $ | 597,060.82 |
| | *FCC - Recycled System | 02-10410 | $ | (592,933.77) |
| | *FCC - Booster Pumping Plants | 02-10411 | $ | 985,931.99 |
| | *FCC - Pipeline Facilities | 02-10412 | $ | 964,485.92 |
| | *FCC - Water Storage Reservoirs | 02-10413 | $ | 2,581,510.33 |
| Operating | Depreciation Reserves | 02-10310 | $ | - |
| | Infrastructure Reserves | 02-10311 | $ | 3,751,440.03 |
| | Sustainability Fund | 02-10313 | $ | 135,708.86 |
| | Rate Stabilization Fund | 02-10314 | $ | 500,209.14 |
| | Imported Water Fund - MUNI | 02-10315 | $ | 911,852.14 |
| | Imported Water Fund - SGPWA | 02-10316 | $ | 933,726.61 |
| | Operating Funds: | | $ | (1,875,869.58) |
| | | **Total Water Division** | **$** | **3,230,057.60** |

| | 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 | $ | 3,345,769.68 |
| | *FCC - Future WWTP Expansion | 03-10407 | $ | 2,452,584.47 |
| | *FCC - Sewer Interceptors | 03-10415 | $ | (599,083.11) |
| | *FCC - Lift Stations | 03-10416 | $ | 446,547.91 |
| | *FCC - Effluent Disposal Facilities | 03-10417 | $ | (1,288,111.90) |
| | *FCC - Salt Mitigation Facilities | 03-10418 | $ | (7,692,374.59) |
| Operating | Project Fund - Encumbered | 03-10215 | $ | 646,500.00 |
| | Depreciation Reserves | 03-10310 | $ | - |
| | Infrastructure Reserves | 03-10311 | $ | 7,854,550.21 |
| | Rate Stabilization Fund | 03-10314 | $ | 1,464,394.90 |
| | Operating Funds: | | $ | (3,137,423.05) |
| | | **Total Wastewater Division** | **$** | **4,386,517.52** |

| | Recycled Water Division | GL# | | Balance |
|---|---|---|---|---|
| Restricted | *FCC - Recycled System | 04-10410 | $ | 297,276.21 |
| | *FCC - Booster Pumping Plants | 04-10411 | $ | 251,446.20 |
| | *FCC - Pipeline Facilities | 04-10412 | $ | 1,466,794.55 |
| | *FCC - Water Storage Reservoirs | 04-10413 | $ | 1,233,572.95 |
| Operati | Depreciation Reserves | 04-10310 | $ | - |
| | Infrastructure Reserves | 04-10311 | $ | 320,486.40 |
| | Operating Funds: | | $ | 357,840.04 |
| | | **Total Recycled Water Division** | **$** | **3,927,416.35** |

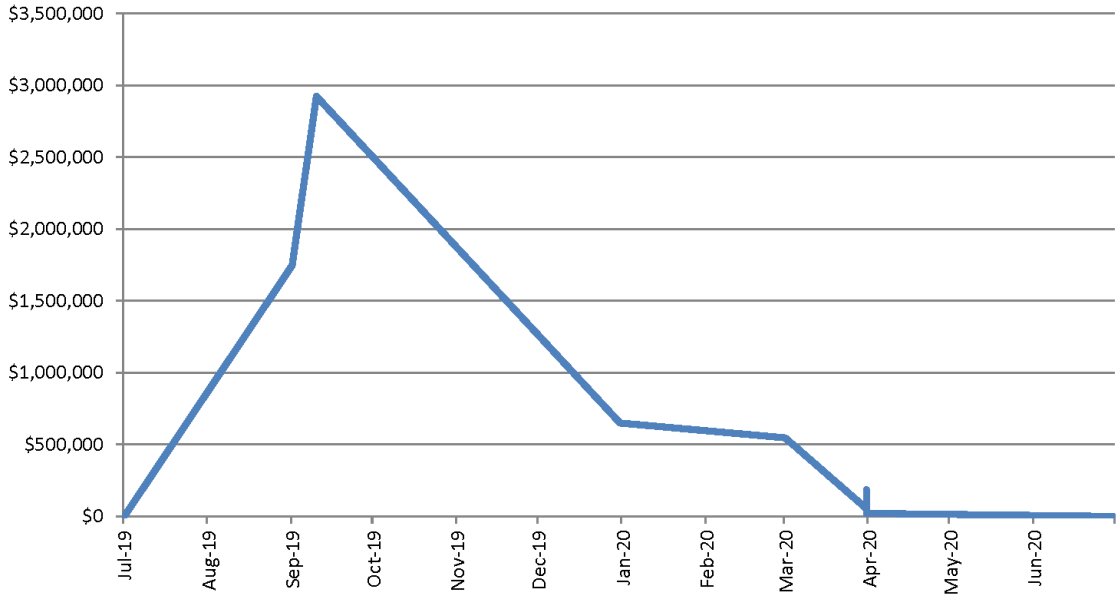
| | | |
|---|---|---|
| | **DISTRICT TOTAL** | **$ 11,543,991.47** |

*=Restricted Funds

# Cash Flow Report for Fiscal Year 2019-20

| Financial Obligations for Fiscal Year 2019-20 | | | | | |
|---|---|---|---|---|---|
| Due Date | Fund | Description | Term of Obligation | | Amount |
| 9/1/2019 | Water | 2015A Bond Payment - YVRWFF | 2015-2034 | $ | 1,745,931.25 |
| 9/10/2019 | Sewer | SRF Payment - WRWRF | 2009-2028 | $ | 2,923,668.75 |
| 12/31/2019 | Sewer | SRF Payment - Yucaipa Regional Brineline | 2013-2032 | $ | 649,273.50 |
| 3/1/2020 | Water | 2015A Bond Payment - YVRWFF | 2015-2034 | $ | 546,681.25 |
| 3/31/2020 | Sewer | SRF Payment - Recycled Reservoir R-10.3 | 2014-2033 | $ | 54,277.31 |
| 3/31/2020 | Sewer | SRF Payment - Desalinization at WRWRF | 2014-2033 | $ | 185,251.30 |
| 3/31/2020 | Sewer | SRF Payment - Crow Street/Recycled Booster B-12.1 | 2016-2035 | $ | 21,233.27 |
| | | | **Total** | **$** | **6,126,316.63** |

**Payment Schedule and Cash Flow Requirements for Fiscal Year 2019-20**



## Check Register - April 2020

| Date | Check # | Payee or Description | | Amount |
|---|---|---|---|---|
| 4/1/2020 | 36689 | Clerk of the Board of Supervisors | $ | 50.00 |
| 4/1/2020 | 36690 | Blue Shield of California | $ | 3,764.00 |
| 4/1/2020 | 36692 | Nippon Life Insurance Co | $ | 2,705.23 |
| 4/1/2020 | 36693 | Standard Dental Insurance Co | $ | 1,461.84 |
| 4/1/2020 | 36694 | Standard Insurance Vision Plan | $ | 264.80 |
| 4/1/2020 | 36695 | Airgas, Inc. | $ | 314.43 |
| 4/1/2020 | 36696 | Alpine Springs | $ | 30.00 |
| 4/1/2020 | 36697 | Ameripride Uniform Services | $ | 860.53 |
| 4/1/2020 | 36698 | Aqua-Metric Sales Company | $ | 189,515.71 |
| 4/1/2020 | 36699 | Atlas Copco Compressors, LLC | $ | 3,496.36 |
| 4/1/2020 | 36700 | Barnes & Thornburg LLP | $ | 5,000.00 |
| 4/1/2020 | 36701 | Best Home Center | $ | 30.07 |
| 4/1/2020 | 36702 | Brenntag Pacific, Inc | $ | 9,362.66 |
| 4/1/2020 | 36703 | California Water Environment Association | $ | 192.00 |
| 4/1/2020 | 36704 | Clark Pest Control | $ | 115.00 |
| 4/1/2020 | 36705 | Cortech Engineering | $ | 223.04 |
| 4/1/2020 | 36706 | Crown Ace Hardware - Yucaipa | $ | 8.05 |
| 4/1/2020 | 36707 | Fuel Equipment Services, Inc. | $ | 573.29 |
| 4/1/2020 | 36708 | Home Depot U.S.A. Inc | $ | 832.30 |
| 4/1/2020 | 36709 | House Of Quality, Parts Plus | $ | 34.23 |
| 4/1/2020 | 36710 | Houston & Harris PCS, Inc. | $ | 1,973.25 |
| 4/1/2020 | 36711 | In-Situ Inc. | $ | 1,109.10 |
| 4/1/2020 | 36712 | ITsavvy LLC | $ | 64,814.08 |
| 4/1/2020 | 36713 | JW D'Angelo Co. | $ | 54,467.70 |
| 4/1/2020 | 36714 | Kelly Services, Inc. | $ | 806.72 |
| 4/1/2020 | 36715 | Les Schwab Tire Center | $ | 884.71 |
| 4/1/2020 | 36716 | Merit Oil Company | $ | 1,651.09 |
| 4/1/2020 | 36717 | NetComp Technologies,Inc. | $ | 32,399.14 |
| 4/1/2020 | 36718 | Quadient Leasing USA, Inc | $ | 353.07 |
| 4/1/2020 | 36719 | Steve Hines No.1, LLC | $ | 15,080.00 |
| 4/1/2020 | 36720 | The Gas Company | $ | 2,061.70 |
| 4/1/2020 | 36721 | The University of Arizona | $ | 3,929.40 |
| 4/1/2020 | 36722 | TPX Communications | $ | 2,898.83 |
| 4/1/2020 | 36723 | US Bank | $ | 8,411.67 |
| 4/20/2020 | 36724 | California State Disbursement Unit | $ | 743.52 |
| 4/20/2020 | 36725 | IBEW Local #1436 | $ | 570.00 |
| 4/20/2020 | 36726 | WageWorks Inc | $ | 1,414.03 |
| 4/20/2020 | 36727 | David L. Wysocki | $ | 4,800.00 |
| 4/20/2020 | 36728 | Delta Partners, LLC | $ | 7,500.00 |
| 4/20/2020 | 36729 | Dudek & Associates, Inc | $ | 35,401.25 |
| 4/20/2020 | 36730 | Geoscience Support Services, Inc. | $ | 90,439.18 |
| 4/20/2020 | 36731 | One Stop Landscape Supply Inc | $ | 22,552.00 |
| 4/20/2020 | 36732 | Pascal & Ludwig Constructors Inc. | $ | 92,962.00 |
| 4/20/2020 | 36733 | Separation Processes, Inc. | $ | 31,384.77 |
| 4/20/2020 | 36734 | Superior Tank Co., Inc. | $ | 39,168.50 |
| 4/20/2020 | 36735 | Fritts Ford | $ | 79,911.75 |

## Check Register - April 2020

| | | | | |
|---|---|---|---|---|
| 4/20/2020 | 36736 | Meyers \| Nave | $ | 15,664.42 |
| 4/20/2020 | 36737 | Atkinson, Andelson, Loya, Ruud & Romo | $ | 975.00 |
| 4/20/2020 | 36738 | Medical Biowaste Solutions. Inc. | $ | 1,952.50 |
| 4/20/2020 | 36739 | Berkshire Hathaway Homestate Companies | $ | 13,885.41 |
| 4/20/2020 | 36740 | ADS, LLC | $ | 4,275.00 |
| 4/20/2020 | 36741 | Alfa Laval Inc. | $ | 11,224.31 |
| 4/20/2020 | 36742 | All American Sewer Tools | $ | 1,667.48 |
| 4/20/2020 | 36743 | American Melt Blown & Filtration Inc. | $ | 3,310.00 |
| 4/20/2020 | 36744 | Ameripride Uniform Services | $ | 1,590.05 |
| 4/20/2020 | 36745 | Aqua-Metric Sales Company | $ | 2,348.75 |
| 4/20/2020 | 36746 | AT&T Mobility | $ | 2,357.42 |
| 4/20/2020 | 36747 | Auto Care Clinic | $ | 5,552.89 |
| 4/20/2020 | 36748 | AutoZone Stores LLC | $ | 106.38 |
| 4/20/2020 | 36749 | Backflow Apparatus & Valve Co. | $ | 6,033.15 |
| 4/20/2020 | 36750 | Best Home Center | $ | 95.82 |
| 4/20/2020 | 36751 | BofA Credit Card | $ | 6,605.95 |
| 4/20/2020 | 36752 | Brenntag Pacific, Inc | $ | 24,199.83 |
| 4/20/2020 | 36753 | California Environmental Controls | $ | 1,185.44 |
| 4/20/2020 | 36754 | California Water Environment Association | $ | 384.00 |
| 4/20/2020 | 36755 | Calmat Company | $ | 2,615.06 |
| 4/20/2020 | 36756 | Caselle, Inc. | $ | 2,645.00 |
| 4/20/2020 | 36757 | Center Electric Services, Inc. | $ | 5,840.72 |
| 4/20/2020 | 36758 | Central Communications | $ | 549.99 |
| 4/20/2020 | 36759 | Clark Pest Control | $ | 115.00 |
| 4/20/2020 | 36760 | Clinical Laboratory of San Bernardino | $ | 16,224.00 |
| 4/20/2020 | 36761 | Contron Scada Systems | $ | 2,626.47 |
| 4/20/2020 | 36762 | Corelogic, Inc. | $ | 330.00 |
| 4/20/2020 | 36763 | County of Riverside | $ | 1,105.00 |
| 4/20/2020 | 36764 | Coverall North America, Inc. | $ | 1,331.00 |
| 4/20/2020 | 36765 | Crown Ace Hardware - Yucaipa | $ | 408.88 |
| 4/20/2020 | 36766 | Epic Pest Management | $ | 85.00 |
| 4/20/2020 | 36767 | Evoqua Water Technologies LLC | $ | 3,556.94 |
| 4/20/2020 | 36768 | Fastenal Company | $ | 1,547.61 |
| 4/20/2020 | 36769 | Fedex | $ | 60.69 |
| 4/20/2020 | 36770 | Fieldman, Rolapp & Associates, Inc. | $ | 500.00 |
| 4/20/2020 | 36771 | First American Data Tree, LLC | $ | 50.00 |
| 4/20/2020 | 36772 | FMB Truck Outfitters, Inc. | $ | 1,114.89 |
| 4/20/2020 | 36773 | Freedom Mailing Services | $ | 9,232.90 |
| 4/20/2020 | 36774 | Frontier Communications | $ | 271.23 |
| 4/20/2020 | 36775 | G&G Environmental Compliance,Inc | $ | 3,063.33 |
| 4/20/2020 | 36776 | Grainger | $ | 1,401.74 |
| 4/20/2020 | 36777 | Hach Company | $ | 5,486.22 |
| 4/20/2020 | 36778 | Hasa, Inc. | $ | 11,418.65 |
| 4/20/2020 | 36779 | Houston & Harris PCS, Inc. | $ | 5,919.75 |
| 4/20/2020 | 36780 | Inland Water Works Supply Co. | $ | 5,588.26 |
| 4/20/2020 | 36781 | JW D'Angelo Co. | $ | 1,761.60 |
| 4/20/2020 | 36782 | Kelly Services, Inc. | $ | 3,176.52 |

## Check Register - April 2020

| | | | | |
|---|---|---|---|---|
| 4/20/2020 | 36783 | Konica Minolta Business Solutions | $ | 1,131.51 |
| 4/20/2020 | 36784 | Lawrence Roll Up Doors, Inc. | $ | 2,971.15 |
| 4/20/2020 | 36785 | LCS Constructors, Inc. | $ | 44,896.50 |
| 4/20/2020 | 36786 | Les Schwab Tire Center | $ | 1,244.05 |
| 4/20/2020 | 36787 | Luke's Transmission Inc. | $ | 1,800.00 |
| 4/20/2020 | 36788 | Merit Oil Company | $ | 1,812.07 |
| 4/20/2020 | 36789 | Nalco Company | $ | 11,311.72 |
| 4/20/2020 | 36790 | NetComp Technologies,Inc. | $ | 5,140.00 |
| 4/20/2020 | 36791 | Pacific Coast Landscape & Design, Inc. | $ | 4,725.00 |
| 4/20/2020 | 36792 | Pacwest Engineering Co., Inc. | $ | 19,159.88 |
| 4/20/2020 | 36793 | Polydyne Inc. | $ | 10,388.58 |
| 4/20/2020 | 36794 | Pro-Pipe & Supply, Inc. | $ | 60.26 |
| 4/20/2020 | 36795 | Q Versa, LLC | $ | 5,367.23 |
| 4/20/2020 | 36796 | R.F MacDonald Co. | $ | 3,735.08 |
| 4/20/2020 | 36797 | Red Alert Special Couriers | $ | 344.26 |
| 4/20/2020 | 36798 | REVIZE SOFTWARE SYSTEMS | $ | 2,000.00 |
| 4/20/2020 | 36799 | Riverside County LAFCO | $ | 10,030.00 |
| 4/20/2020 | 36800 | SB CNTY-Fire Protection District | $ | 2,520.00 |
| 4/20/2020 | 36801 | SB CNTY-Solid Waste Mgmt Div | $ | 395.01 |
| 4/20/2020 | 36802 | SCE Rosemead | $ | 155,249.40 |
| 4/20/2020 | 36803 | Separation Processes, Inc. | $ | 2,568.00 |
| 4/20/2020 | 36804 | South Coast A.Q.M.D. | $ | 557.42 |
| 4/20/2020 | 36805 | Southern CA Emergency Medicine, Inc. | $ | 450.00 |
| 4/20/2020 | 36806 | Spectrum Business | $ | 3,668.00 |
| 4/20/2020 | 36807 | The Counseling Team International | $ | 1,200.00 |
| 4/20/2020 | 36808 | The Gas Company | $ | 353.62 |
| 4/20/2020 | 36809 | Time Warner Cable | $ | 280.77 |
| 4/20/2020 | 36810 | Underground Service Alert Of So. CA | $ | 275.65 |
| 4/20/2020 | 36811 | UPS Store#1504/ Mail Boxes Etc. | $ | 83.03 |
| 4/20/2020 | 36812 | West Coast Lights & Sirens, Inc. | $ | 3,859.70 |
| 4/20/2020 | 36813 | Yucaipa Disposal, Inc. | $ | 9,740.24 |
| 4/20/2020 | 36814 | Yucaipa Valley Water District | $ | 54,228.81 |
| 4/20/2020 | 36815 | Yucaipa/Calimesa News Mirror | $ | 370.00 |
| 4/24/2020 | 36816 | WageWorks Inc | $ | 1,414.03 |
| 4/24/2020 | 36817 | California State Disbursement Unit | $ | 743.52 |
| 4/24/2020 | 36818 | Lawyers Title Company | $ | 5,000.00 |
| 4/27/2020 | 36819 | Concentra | $ | 46.50 |
| 4/27/2020 | 36820 | Doug Earnest | $ | 640.51 |
| 4/27/2020 | 36821 | Joan Cadiz | $ | 903.32 |
| 4/27/2020 | 36822 | Joe DeSalliers | $ | 592.13 |
| 4/27/2020 | 36823 | Peggy Little | $ | 640.51 |
| 4/27/2020 | 36824 | Robert Wall | $ | 785.37 |
| 4/27/2020 | 36825 | WageWorks, Inc. | $ | 191.75 |
| 4/27/2020 | 36826 | Aflac | $ | 2,995.89 |
| 4/27/2020 | 36827 | Blue Shield of California | $ | 5,535.50 |
| 4/27/2020 | 36828 | Standard Insurance Vision Plan | $ | 319.76 |
| 4/27/2020 | 36829 | Western Dental Services Inc | $ | 251.16 |

## Check Register - April 2020

| | | | | |
|---|---|---|---|---|
| 4/27/2020 | 36830 | Ameripride Uniform Services | $ | 860.75 |
| 4/27/2020 | 36831 | AutoZone Stores LLC | $ | 152.25 |
| 4/27/2020 | 36832 | Best Home Center | $ | 456.58 |
| 4/27/2020 | 36833 | BIA of Southern California, Inc | $ | 7,500.00 |
| 4/27/2020 | 36836 | CA-ARB/PERP | $ | 735.00 |
| 4/27/2020 | 36837 | Crown Ace Hardware - Yucaipa | $ | 87.39 |
| 4/27/2020 | 36838 | CV Strategies | $ | 8,750.00 |
| 4/27/2020 | 36839 | Engleman, Daniel | $ | 777.32 |
| 4/27/2020 | 36840 | Frontier Communications | $ | 45.83 |
| 4/27/2020 | 36841 | Harper & Associates Eng., Inc. | $ | 3,200.00 |
| 4/27/2020 | 36842 | House Of Quality, Parts Plus | $ | 40.07 |
| 4/27/2020 | 36843 | Houston & Harris PCS, Inc. | $ | 1,973.25 |
| 4/27/2020 | 36844 | Inland Water Works Supply Co. | $ | 2,638.04 |
| 4/27/2020 | 36845 | Kelly Services, Inc. | $ | 1,008.40 |
| 4/27/2020 | 36846 | Krieger & Stewart | $ | 54,650.74 |
| 4/27/2020 | 36847 | Leighton Consulting, Inc. | $ | 5,961.55 |
| 4/27/2020 | 36848 | Les Schwab Tire Center | $ | 2,160.42 |
| 4/27/2020 | 36849 | Lowe's Companies, Inc. | $ | 378.84 |
| 4/27/2020 | 36850 | MBC Applied Environmental Sciences | $ | 1,450.00 |
| 4/27/2020 | 36851 | Pro-Pipe & Supply, Inc. | $ | 92.03 |
| 4/27/2020 | 36852 | Redline | $ | 3,076.88 |
| 4/27/2020 | 36853 | Sinclair Rock and Sand Inc. | $ | 3,250.00 |
| 4/27/2020 | 36854 | South Coast A.Q.M.D. | $ | 1,101.04 |
| 4/27/2020 | 36855 | Spectrum Business | $ | 2,649.00 |
| 4/27/2020 | 36856 | TPX Communications | $ | 2,879.93 |
| 4/27/2020 | 36857 | Transene Company, Inc. | $ | 505.67 |
| 4/27/2020 | 36858 | US Bank | $ | 16,516.58 |
| 4/27/2020 | 36859 | USPS-HASLER | $ | 2,000.00 |
| 4/27/2020 | 36860 | Wilbur's | $ | 315.43 |
| 4/27/2020 | 36861 | Terry Moody | $ | 1,834.00 |
| 4/27/2020 | 36864 | Nippon Life Insurance Co | $ | 2,804.77 |
| 4/27/2020 | 36865 | Standard Dental Insurance Co | $ | 1,156.40 |
| 4/27/2020 | 36866 | RivCo Parks | $ | 1,000.00 |
| 4/27/2020 | 36867 | Meyers \| Nave | $ | 9,278.97 |
| | | | **$** | **1,540,120.96** |

| | | | | |
|---|---|---|---|---|
| 4/1/2020 | electronic pmt | CalPERS Health Insurance | $ | 95,814.62 |
| 4/10/2020 | electronic pmt | DIRECT DEPOSIT TOTAL | $ | 143,391.49 |
| 4/10/2020 | electronic pmt | CalPERS 457 & Loan | $ | 26,480.24 |
| 4/10/2020 | electronic pmt | CalPERS Retirement | $ | 30,671.04 |
| 4/10/2020 | electronic pmt | EDD - State of California | $ | 9,867.78 |
| 4/10/2020 | electronic pmt | IRS | $ | 58,289.47 |
| 4/10/2020 | electronic pmt | VOYA 457 Retirement Plan | $ | 5,801.26 |
| 4/24/2020 | electronic pmt | DIRECT DEPOSIT TOTAL | $ | 139,452.02 |
| 4/24/2020 | electronic pmt | CalPERS 457 & Loan | $ | 24,254.92 |

## Check Register - April 2020

| | | | | |
|---|---|---|---|---|
| 4/24/2020 | electronic pmt | CalPERS Retirement | $ | 30,435.39 |
| 4/24/2020 | electronic pmt | EDD - State of California | $ | 9,848.21 |
| 4/24/2020 | electronic pmt | IRS | $ | 57,138.79 |
| 4/24/2020 | electronic pmt | VOYA 457 Retirement Plan | $ | 4,295.26 |
| 4/27/2020 | electronic pmt | CalPERS Health Insurance | $ | 95,814.62 |
| | | | **$** | **731,555.11** |

# Investment Summary - April 2020

## U.S. TREASURIES

| Quantity | Description | Cusip | Maturity Date | Yield | Cost of Purchase | Market Value |
|---|---|---|---|---|---|---|
| 500,000 | US Treasury Bill | 912796SV2 | June 18, 2020 | 2.150% | $ 491,590.83 | $ 528,173.78 |
| **500,000** | | | **Total Values** | | **$ 491,590.83** | **$ 528,173.78** |

| | | |
|---|---|---|
| **Money Market Account Activity-Beginning Balance** | | **$ 28,273.07** |
| 7/31/17 - Bond Interest | $ | - |
| 7/31/18 - Dividend/Interest | $ | 0.71 |
| Cusip 912796QM4 Accrued Interest Paid | | |
| Business Account Fee | | |
| **Income** | **$** | **0.71** |
| Intra-Bank Transfers to/from Investment Checking | $ | - |
| **Fund Transfers** | **$** | **-** |
| Cusip Maturity | | |
| **Redemptions** | **$** | **-** |
| Cusip Purchase | | |
| **Purchases** | **$** | **-** |
| **Ending Balance - Money Market** | **$** | **28,273.78** |
| **US Treasury Securities Investment Principal** | **$** | **491,590.83** |
| **Total Assets** | **$** | **519,864.61** |

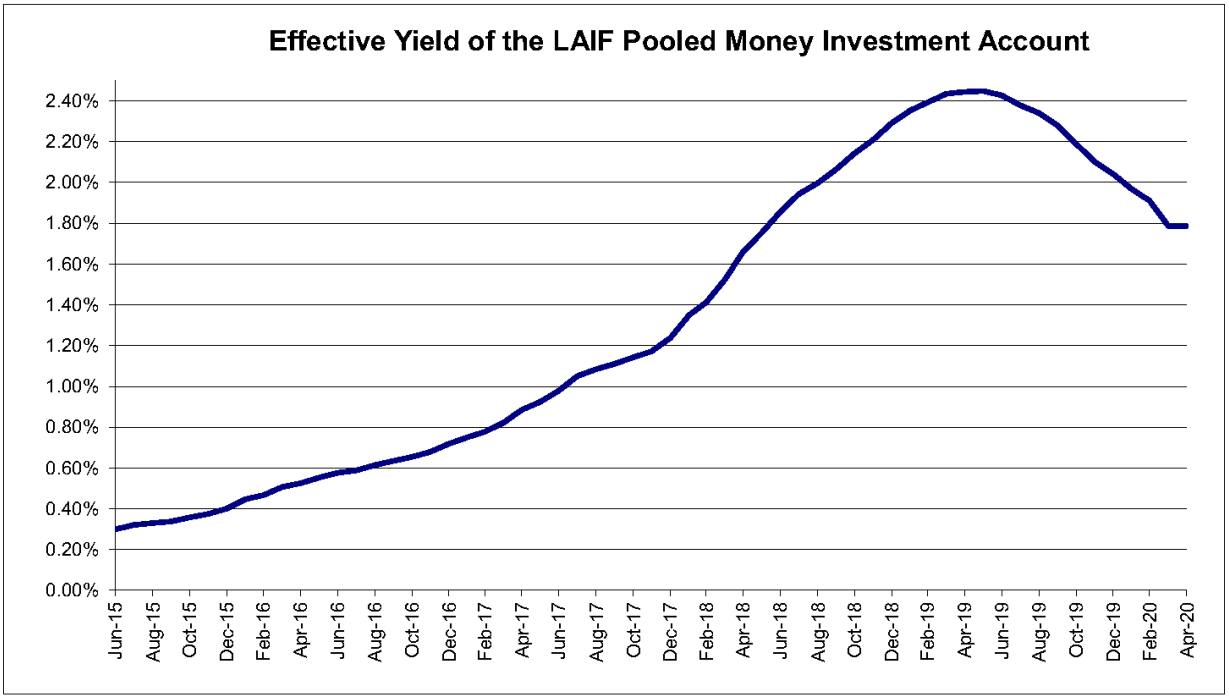
***Note: As of 5/6/2020, the updated treasury information for April has not been received. The information above is as of 3/31/20.***

# Investment Summary - April 2020

## LOCAL AGENCY INVESTMENT FUND

| PERIOD | TOTAL WITHDRAWAL AMOUNT | TOTAL DEPOSIT AMOUNT | ACCRUED INTEREST (QUARTERLY) | ENDING BALANCE |
|---|---|---|---|---|
| July 31, 2019 | $ - | $ - | $ 56,327.40 | $ 10,343,772.08 |
| August 31, 2019 | $ (2,900,000.00) | $ - | $ - | $ 7,443,772.08 |
| September 30, 2019 | $ - | $ - | $ - | $ 7,443,772.08 |
| October 31, 2019 | $ (1,000,000.00) | $ - | $ 54,200.09 | $ 6,497,972.17 |
| November 30, 2019 | $ - | $ - | $ - | $ 6,497,972.17 |
| December 31, 2019 | $ - | $ - | $ 38,378.94 | $ 6,536,351.11 |
| January 31, 2020 | $ - | $ 1,490,000.00 | $ - | $ 8,026,351.11 |
| February 28, 2020 | $ - | $ - | $ - | $ 8,026,351.11 |
| March 31, 2020 | $ - | $ - | $ - | $ 8,026,351.11 |
| April 30, 2020 | $ - | $ - | $ 38,586.63 | $ 8,064,937.74 |
| May 31, 2020 | $ - | $ - | $ - | $ 8,064,937.74 |
| June 30, 2020 | $ - | $ - | $ - | $ 8,064,937.74 |

| L.A.I.F. INCOME SUMMARY | CURRENT QUARTER | FY YEAR-TO-DATE |
|---|---|---|
| INCOME RECEIVED | $ 38,378.94 | $ 187,493.06 |



| FY 2019-20 Water Revenue | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT# | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 02-400-40010 | Sales-Water & Non Potable | $ 5,600,000 | $ 486,233 | $ 4,922,815 | 87.91% |
| 02-400-40011 | Sales-Construction Water | $ 100,000 | $ 7 | $ 19,63´ | 19.63% |
| 02-400-40012 | Sales-Imported Water-SGPWA | $ 250,000 | $ 15 | $ 200,808 | 80.32% |
| 02-400-40013 | Sales-Imported Water-MUNI | $ 850,000 | $ 38 | $ 619,188 | 72.85% |
| 02-400-40014 | Sales-Disc (Multi Unit) Commdy | $ (110,000) | $ - | $ (87,258) | 79.33% |
| 02-400-40015 | Sales-Wholesale Water | $ 200,000 | $ 7,787 | $ 76,914 | 38.46% |
| 02-400-40016 | Sales-Establish Service Fee | $ 6,000 | $ 25 | $ 5,525 | 92.08% |
| 02-400-41000 | Sales-Service Demand Charges | $ 3,500,000 | $ 523 | $ 2,675,616 | 76.45% |
| 02-400-41001 | Sales-Fire Srv Standby Fees | $ 40,000 | $ 116,329 | $ 153,695 | 384.24% |
| 02-400-41003 | Sales-Const Water Minimum Chg | $ 5,000 | $ - | $ 1,703 | 34.06% |
| 02-400-41005 | Sales-Disc (Multi Units)-SC | $ (135,000) | $ - | $ (110,046) | 81.52% |
| 02-400-41010 | Unauthorized Use of Water Chrg | $ 2,000 | $ - | $ - | 0.00% |
| 02-400-41110 | Meter/Lateral Installation | $ 100,000 | $ - | $ 198,268 | 198.27% |
| 02-400-41112 | Fire Flow Test Fees | $ 4,500 | $ 450 | $ 4,625 | 102.78% |
| 02-400-41113 | Discconnect & Reconnect Fees | $ 100,000 | $ - | $ 27,848 | 27.85% |
| 02-400-41121 | Delinquent Payment Charges | $ 135,000 | $ - | $ 93,128 | 68.98% |
| 02-400-41124 | Bad Debt Write-Off & Recovery | $ (20,000) | $ - | $ - | 0.00% |
| 02-421-42122 | Revenue - Other, Operating | $ - | $ - | $ 9,229 | N/A |
| 02-421-42123 | Admin, Management & Acctg Fees | $ 210,000 | $ 17,500 | $ 175,000 | 83.33% |
| 02-430-43010 | Interest Earned | $ 115,000 | $ 17,364 | $ 67,439 | 58.64% |
| 02-431-43110 | Property Tax - Unsecured | $ 250,000 | $ 761 | $ 118,491 | 47.40% |
| 02-431-43120 | Property Tax - Secured | $ 3,000,000 | $ 1,206,359 | $ 2,649,160 | 88.31% |
| 02-431-43130 | Tax Collection - Prior | $ 45,000 | $ 2,928 | $ 32,216 | 71.59% |
| 02-431-43140 | Taxes - Other | $ 180,000 | $ 6,400 | $ 141,257 | 78.48% |
| 02-491-49110 | Rental Income | $ 3,000 | $ - | $ - | 0.00% |
| 02-491-49150 | Revenue - Misc Non-Operating | $ 45,122 | $ 850 | $ 13,960 | 30.94% |
| | **WATER OPERATING REVENUE** | **$ 14,475,622** | **$ 1,863,569** | **$ 12,009,211** | **82.96%** |
| | | | | | |
| | Transfer - Reserve Fund | $ - | $ - | $ - | |
| | | | | | |
| | | | | | |
| 02-480-48002 | Grants | $ 700,000 | $ - | $ 436,745 | 62.39% |
| 02-480-48901 | Contrib Cap-Capacity Fees | $ - | $ - | $ 616,955 | N/A |
| 02-480-48902 | Contrib Cap-Sustainability | $ - | $ - | $ 96,816 | N/A |
| | | | | | |
| | **TOTAL WATER REVENUE** | **$ 15,175,622** | **$ 1,863,569** | **$ 13,159,727** | **86.72%** |

**NOTE: Plan check & inspection fees to 02-42122**

| FY 2019-20 Sewer Revenue | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT# | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 03-400-40016 | Sales-Establish Service Fee | $ 500 | $ - | $ 100 | 20.00% |
| 03-400-41000 | Sales-Sewer Charges | $ 12,132,712 | $ 969,428 | $ 10,626,576 | 87.59% |
| 03-400-41005 | Sales-Disc (Multi Units)-SC | $ (200,000) | $ (18,298) | $ (195,542) | 97.77% |
| 03-400-41110 | Meter/Lateral Installation | $ 15,000 | $ - | $ 7,500 | 50.00% |
| 03-400-41121 | Penalty - Late Charges | $ 125,000 | $ (11) | $ 107,596 | 86.08% |
| 03-400-41124 | Bad Debt Write-Off & Recovery | $ (15,000) | $ - | $ - | 0.00% |
| 03-400-41131 | Front Footage Fees | $ 55,000 | $ - | $ 25,000 | 45.45% |
| 03-421-42122 | Revenue - Other, Operating | $ 2,000 | $ 360 | $ 13,196 | 659.80% |
| 03-430-43010 | Interest Earned | $ 100,000 | $ 17,364 | $ 59,025 | 59.02% |
| 03-431-43110 | Property Tax - Unsecured | $ - | $ - | $ - | - |
| 03-431-43120 | Property Tax - Secured | $ - | $ - | $ - | - |
| 03-431-43130 | Tax Collection - Prior | $ - | $ - | $ - | - |
| 03-431-43140 | Taxes - Other | $ - | $ - | $ - | - |
| 03-491-49150 | Revenue - Misc Non-Operating | $ 1,369,774 | $ - | $ 500 | 0.04% |
| | **SEWER OPERATING REVENUE** | **$ 13,584,986** | **$ 968,843** | **$ 10,643,951** | **78.35%** |
| | | | | | |
| 03-480-48002 | Grants | $ - | $ - | $ - | - |
| 03-480-48901 | Contrib Cap-Capacity Fees | $ - | $ 20,421 | $ 1,633,910 | - |
| 03-480-48905 | Contrib Cap-Infrastructure | $ - | $ 180 | $ 288,705 | - |
| | | | | | |
| | **TOTAL SEWER REVENUE** | **$ 13,584,986** | **$ 989,444** | **$ 12,566,567** | **92.50%** |

| FY 2019-20 Recycled Revenue | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT# | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 04-400-40010 | Sales-Water & Non Potable | $ 663,947 | $ 162,678 | $ 1,153,569 | 173.74% |
| 04-400-40011 | Sales-Construction Water | $ 45,000 | $ - | $ 45 | 0.10% |
| 04-400-40017 | Sales-Excess Drinking Water | $ - | $ 1,437 | $ 4,077 | N/A |
| 04-400-40018 | Sales-Infrastructure | $ - | $ 4,928 | $ 15,572 | N/A |
| 04-400-41000 | Sales-Service Demand Charges | $ 90,000 | $ 12,255 | $ 105,060 | 116.73% |
| 04-400-41003 | Sales-Const Water Minimum Chg | $ 1,000 | $ 142 | $ 790 | 79.01% |
| 04-400-41110 | Meter/Lateral Installation | $ 70,000 | $ - | $ 83,165 | 118.81% |
| 04-400-41121 | Penalty - Late Charges | $ 5,000 | $ - | $ 3,604 | 72.08% |
| 04-400-41122 | Revenue - Other, Operating | $ 500 | $ - | $ 218 | 43.63% |
| 04-430-43010 | Interest Earned | $ 25,000 | $ 3,859 | $ 13,117 | 52.47% |
| 04-431-43110 | Property Tax - Unsecured | $ - | $ - | $ - | N/A |
| 04-431-43120 | Property Tax - Secured | $ 400,000 | $ - | $ 400,000 | 100.00% |
| 04-431-43130 | Tax Collection - Prior | $ - | $ - | $ - | N/A |
| 04-431-43140 | Taxes - Other | $ - | $ - | $ - | N/A |
| 04-491-49150 | Revenue-Misc Non-Operating | $ 1,000 | $ - | $ 28 | 2.85% |
| | **RECYCLED OPERATING REVENUE** | **$ 1,301,447** | **$ 185,298** | **$ 1,779,244** | **136.71%** |
| 04-480-48002 | Grants | $ - | $ - | $ - | N/A |
| 04-480-48901 | Contrib Cap-Capacity Fees | $ - | $ - | $ 1,326,989 | N/A |
| | **TOTAL RECYCLED REVENUE** | **$ 1,301,447** | **$ 185,298** | **$ 3,106,233** | **238.68%** |

| FY 2019-20 Water Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 02-501-50009 | Labor - Overtime | $ - | $ 382 | $ 16,068 | #DIV/0! |
| 02-501-50010 | Labor | $ 1,027,703 | $ 60,816 | $ 581,709 | 56.60% |
| 02-501-50011 | Labor - Credit | $ - | $ - | $ - | N/A |
| 02-501-50013 | Benefits-FICA | $ 73,537 | $ 5,012 | $ 59,232 | 80.55% |
| 02-501-50014 | Benefits-Life Insurance | $ 6,264 | $ 123 | $ 1,455 | 23.24% |
| 02-501-50016 | Benefits-Health & Def Comp | $ 211,826 | $ 16,409 | $ 187,629 | 88.58% |
| 02-501-50017 | Benefits-Disability Insurance | $ 11,004 | $ 923 | $ 11,685 | 106.19% |
| 02-501-50019 | Benefits-Workers Compensation | $ 23,013 | $ 2,571 | $ 18,923 | 82.23% |
| 02-501-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 02-501-50022 | Benefits-PERS Employer | $ 173,405 | $ 3,871 | $ 46,747 | 26.96% |
| 02-501-50023 | Benefits-Uniforms | $ 6,525 | $ 166 | $ 3,699 | 56.70% |
| 02-501-50024 | Benefits-Vacation & Sick Pay | $ 8,000 | $ - | $ 8,000 | 100.00% |
| 02-501-50025 | Benefits-Boots | $ 8,415 | $ - | $ 2,700 | 32.09% |
| 02-501-51003 | R&M - Structures | $ 300,000 | $ 2,098 | $ 414,472 | 138.16% |
| 02-501-51011 | R&M - Valves | $ 20,000 | $ - | $ 232 | 1.16% |
| 02-501-51115 | Laboratory Supplies | $ - | $ - | $ - | N/A |
| 02-501-51140 | General Supplies & Expenses | $ 3,000 | $ 3,595 | $ 8,027 | 267.56% |
| 02-501-51210 | Utilities - Power Purchases | $ 1,300,000 | $ 72,157 | $ 952,977 | 73.31% |
| 02-501-51211 | Utilities - Electricity | $ 5,000 | $ 331 | $ 2,952 | 59.04% |
| 02-501-51316 | Imported Water Purchases | $ 1,075,000 | $ - | $ 626,562 | 58.28% |
| 02-501-54012 | Education & Training | $ - | $ 50 | $ 4,169 | N/A |
| 02-501-54019 | Licenses & Permits | $ 65,000 | $ 4,766 | $ 56,777 | 87.35% |
| 02-501-54025 | Telephone & Internet | $ - | $ 284 | $ 2,556 | N/A |
| 02-501-54110 | Laboratory Services | $ 77,500 | $ - | $ 35,783 | 46.17% |
| 02-501-57040 | YVRWFF-Crystal Creek Exp | $ 567,431 | $ 14,955 | $ 466,316 | 82.18% |
| | **WATER RESOURCE TOTALS** | **$ 4,962,623** | **$ 188,126** | **$ 3,492,601** | **70.38%** |
| 02-503-50009 | Labor - Overtime | $ - | $ 8,575 | $ 134,833 | N/A |
| 02-503-50010 | Labor | $ 1,593,344 | $ 110,401 | $ 1,259,218 | 79.03% |
| 02-503-50011 | Labor - Credit | $ - | $ - | $ (2,423) | N/A |
| 02-503-50013 | Benefits-FICA | $ 121,891 | $ 9,169 | $ 104,060 | 85.37% |
| 02-503-50014 | Benefits-Life Insurance | $ 10,440 | $ 271 | $ 3,125 | 29.94% |
| 02-503-50016 | Benefits-Health & Def Comp | $ 425,106 | $ 38,016 | $ 426,005 | 100.21% |
| 02-503-50017 | Benefits-Disability Insurance | $ 14,340 | $ 1,655 | $ 17,991 | 125.46% |
| 02-503-50019 | Benefits-Workers Compensation | $ 43,020 | $ 2,571 | $ 19,140 | 44.49% |
| 02-503-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 02-503-50022 | Benefits-PERS Employer | $ 239,002 | $ 7,406 | $ 86,818 | 36.33% |
| 02-503-50023 | Benefits-Uniforms | $ 10,875 | $ 239 | $ 10,464 | 96.22% |
| 02-503-50024 | Benefits-Vacation & Sick Pay | $ 4,000 | $ - | $ 4,000 | 100.00% |
| 02-503-50025 | Benefits-Boots | $ 32,775 | $ - | $ 9,000 | 27.46% |
| 02-503-51001 | R&M - Vehicles & Equipment | $ 207,500 | $ 10,508 | $ 186,561 | 89.91% |
| 02-503-51011 | R&M - Valves | $ 5,000 | $ - | $ 1,645 | 32.90% |
| 02-503-51020 | R&M - Pipelines | $ 200,000 | $ - | $ 217,953 | 108.98% |

| FY 2019-20 Water Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 02-503-51021 | R&M - Service Lines | $ 96,000 | $ - | $ 33,334 | 34.72% |
| 02-503-51022 | R&M - Fire Hydrants | $ 50,000 | $ - | $ 908 | 1.82% |
| 02-503-51029 | Repair & Maintenance-Backflow | $ 65,000 | $ 8,453 | $ 35,715 | 54.95% |
| 02-503-51030 | R&M - Meters | $ 30,000 | $ 52 | $ 5,912 | 19.71% |
| 02-503-51031 | R&M - Fire Flow Testing | $ 25,000 | $ - | $ 19,201 | 76.81% |
| 02-503-51092 | Equipment Credits | $ - | $ - | $ (3,262) | N/A |
| 02-503-51140 | General Supplies & Expenses | $ 3,000 | $ 86 | $ 2,300 | 76.66% |
| 02-503-54012 | Education & Training | $ - | $ - | $ 1,835 | N/A |
| 02-503-54025 | Telephone & Internet | $ - | $ 364 | $ 3,444 | N/A |
| | **PUBLIC WORKS TOTALS** | **$ 3,176,293** | **$ 189,190** | **$ 2,442,943** | **76.91%** |
| | | | | | |
| 02-506-50009 | Labor - Overtime | $ - | $ 428 | $ 7,633 | #DIV/0! |
| 02-506-50010 | Labor | $ 616,295 | $ 45,608 | $ 494,179 | 80.19% |
| 02-506-50011 | Labor - Credit | $ - | $ - | $ - | N/A |
| 02-506-50012 | Director Fees | $ 26,000 | $ 1,790 | $ 20,711 | 79.66% |
| 02-506-50013 | Benefits-FICA | $ 47,147 | $ 4,144 | $ 41,718 | 88.48% |
| 02-506-50014 | Benefits-Life Insurance | $ 3,120 | $ 86 | $ 976 | 31.29% |
| 02-506-50016 | Benefits-Health & Def Comp | $ 130,980 | $ 15,739 | $ 166,547 | 127.15% |
| 02-506-50017 | Benefits-Disability Insurance | $ 5,547 | $ 673 | $ 7,715 | 139.09% |
| 02-506-50019 | Benefits-Workers Compensation | $ 16,640 | $ 1,200 | $ 11,076 | 66.56% |
| 02-506-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 02-506-50022 | Benefits-PERS Employer | $ 92,444 | $ 3,436 | $ 40,345 | 43.64% |
| 02-506-50023 | Benefits-Uniforms | $ 3,250 | $ 60 | $ 2,828 | 87.01% |
| 02-506-50024 | Benefits-Vacation & Sick Pay | $ 10,000 | $ (0) | $ 10,000 | 100.00% |
| 02-506-50025 | Benefits-Boots | $ 1,950 | $ - | $ 3,300 | 169.23% |
| 02-506-51003 | R&M - Structures | $ 35,000 | $ - | $ 30,130 | 86.09% |
| 02-506-51091 | Expense Credits (overhead) | $ - | $ - | $ (1,153) | N/A |
| 02-506-51120 | Safety Equipment & Supplies | $ 25,000 | $ 1,548 | $ 9,313 | 37.25% |
| 02-506-51125 | Petroleum Products | $ 150,000 | $ (2,000) | $ 92,548 | 61.70% |
| 02-506-51130 | Office Supplies & Expenses | $ 35,000 | $ 127 | $ 13,128 | 37.51% |
| 02-506-51140 | General Supplies & Expenses | $ 40,000 | $ 1,134 | $ 22,260 | 55.65% |
| 02-506-51199 | Disaster Repairs & Incidences | $ - | $ - | $ - | N/A |
| 02-506-51211 | Utilities - Electricity | $ 32,000 | $ 1,856 | $ 24,809 | 77.53% |
| 02-506-51213 | Utilities - Natural Gas | $ 2,000 | $ - | $ 1,954 | 97.72% |
| 02-506-54002 | Dues & Subscriptions | $ 30,000 | $ - | $ 18,487 | 61.62% |
| 02-506-54005 | Computer Expenses | $ 145,000 | $ (3,851) | $ 90,664 | 62.53% |
| 02-506-54010 | Postage | $ 10,000 | $ 2,061 | $ 2,623 | 26.23% |
| 02-506-54011 | Printing & Publications | $ - | $ - | $ 351 | N/A |
| 02-506-54012 | Education & Training | $ 20,000 | $ 260 | $ 5,655 | 28.27% |
| 02-506-54013 | Utility Billing Expenses | $ 185,000 | $ 18,097 | $ 165,239 | 89.32% |
| 02-506-54014 | Public Relations | $ 31,500 | $ 11,438 | $ 20,700 | 65.71% |
| 02-506-54016 | Travel Related Expenses | $ 7,500 | $ - | $ 9,865 | 131.53% |
| 02-506-54017 | Certifications & Renewals | $ 12,000 | $ 270 | $ 6,131 | 51.09% |
| 02-506-54020 | Meeting Related Expenses | $ 8,000 | $ 1,132 | $ 6,927 | 86.59% |
| 02-506-54022 | Utilities - YVWD Services | $ 145,000 | $ - | $ 56,234 | 38.78% |

| FY 2019-20 Water Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 02-506-54024 | Waste Disposal | $ 2,700 | $ - | $ 3,848 | 142.51% |
| 02-506-54025 | Telephone & Internet | $ 45,000 | $ 2,910 | $ 42,432 | 94.29% |
| 02-506-54099 | Conservation & Rebates | $ 30,000 | $ - | $ 750 | 2.50% |
| 02-506-54104 | Contractural Services | $ 270,000 | $ 6,305 | $ 215,295 | 79.74% |
| 02-506-54107 | Legal | $ 120,000 | $ - | $ 102,554 | 85.46% |
| 02-506-54108 | Audit & Accounting | $ 15,000 | $ - | $ 11,565 | 77.10% |
| 02-506-54109 | Professional Fees | $ 217,691 | $ 500 | $ 179,728 | 82.56% |
| 02-506-55500 | Depreciation | $ 1,272,330 | $ 106,028 | $ 1,060,275 | 83.33% |
| 02-506-56001 | Insurance | $ 100,000 | $ 11,742 | $ 109,151 | 109.15% |
| 02-506-57030 | Regulatory Compliance | $ 35,000 | $ - | $ 25,348 | 72.42% |
| 02-506-57090 | Election Related Expenses | $ - | $ - | $ - | N/A |
| 02-506-57095 | Yucaipa SGMA | $ 10,000 | $ - | $ 5,622 | 56.22% |
| 02-506-57096 | Beaumont Basin Watermaster | $ 40,000 | $ - | $ 23,498 | 58.75% |
| 02-506-57097 | San Timoteo SGMA | $ 5,000 | $ 1,000 | $ 7,100 | - |
| 02-506-57098 | Bunker Hill GSC | $ 15,000 | $ - | $ 11,847 | - |
| 02-506-57199 | Suspense | $ - | $ - | $ - | |
| | **ADMINISTRATION TOTALS** | **$ 4,044,094** | **$ 233,291** | **$ 3,174,275** | **78.49%** |
| | | | | | |
| 02-540-57201 | Series 2015A Principal | $ 1,170,000 | $ - | $ 1,170,000 | 100.00% |
| 02-540-57402 | Interest - Bond Repayment | $ 1,122,612 | $ - | $ 1,121,361 | 99.89% |
| | **40 - Debt** | **$ 2,292,612** | **$ -** | **$ 2,291,361** | **99.95%** |
| | | | | | |
| 02-540-57001 | Asset Acq. - Water Dept | $ - | $ - | $ - | -- |
| 02-540-57003 | Asset Acq. - US Dept | $ - | $ - | $ - | -- |
| 02-540-57006 | Asset Acq. - Admin Dept | $ - | $ - | $ - | -- |
| | **40 - Capital Outlay** | **$ -** | **$ -** | **$ -** | **--** |
| | | | | | |
| | **TOTAL WATER EXPENSES** | **$ 14,475,622** | **$ 610,608** | **$ -** | **0.00%** |

| FY 2019-20 Sewer Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 03-502-50009 | Labor - Overtime | $ - | $ 3,169 | $ 70,934 | N/A |
| 03-502-50010 | Labor | $ 1,059,129 | $ 90,122 | $ 982,130 | 92.73% |
| 03-502-50013 | Benefits-FICA | $ 81,023 | $ 7,686 | $ 86,772 | 107.10% |
| 03-502-50014 | Benefits-Life Insurance | $ 5,592 | $ 174 | $ 1,977 | 35.36% |
| 03-502-50016 | Benefits-Health & Def Comp | $ 224,598 | $ 25,223 | $ 269,282 | 119.90% |
| 03-502-50017 | Benefits-Disability Insurance | $ 9,535 | $ 1,390 | $ 15,372 | 161.22% |
| 03-502-50019 | Benefits-Workers Compensatn | $ 28,596 | $ 2,571 | $ 18,923 | 66.17% |
| 03-502-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 03-502-50022 | Benefits-PERS Employer | $ 158,869 | $ 5,808 | $ 67,394 | 42.42% |
| 03-502-50023 | Benefits-Uniforms | $ 5,825 | $ 259 | $ 4,551 | 78.14% |
| 03-502-50024 | Benefits-Vacation & Sick Pay | $ 9,000 | $ (0) | $ 9,000 | 100.00% |
| 03-502-50025 | Benefits-Boots | $ 7,995 | $ - | $ 3,640 | 45.53% |
| 03-502-51003 | R&M - Structures | $ 350,000 | $ 16,963 | $ 144,657 | 41.33% |
| 03-502-51010 | R&M - Automation Control | $ 65,000 | $ - | $ 52,941 | 81.45% |
| 03-502-51106 | Chemicals | $ 600,000 | $ 31,609 | $ 546,903 | 91.15% |
| 03-502-51111 | Propane | $ 500 | $ - | $ 65 | 12.93% |
| 03-502-51115 | Laboratory Supplies | $ 30,000 | $ 741 | $ 36,502 | 121.67% |
| 03-502-51140 | General Supplies & Expenses | $ 5,000 | $ 4,308 | $ 9,084 | 181.68% |
| 03-502-51210 | Utilities - Power Purchases | $ 850,000 | $ 66,507 | $ 777,537 | 91.47% |
| 03-502-54012 | Education & Training | $ - | $ - | $ 2,809 | N/A |
| 03-502-54025 | Telephone & Internet | $ - | $ 436 | $ 3,924 | N/A |
| 03-502-54110 | Laboratory Services | $ 85,000 | $ 1,884 | $ 87,097 | 102.47% |
| 03-502-57031 | Sewage Waste Disposal-Solids | $ 226,000 | $ - | $ 181,124 | 80.14% |
| 03-502-57034 | Brineline Operating Expenses | $ 396,500 | $ 1,121 | $ 236,822 | 59.73% |
| | **TREATMENT TOTALS** | **$ 4,198,162** | **$ 259,970** | **$ 3,609,440** | **85.98%** |
| | | | | | |
| 03-506-50009 | Labor - Overtime | $ - | $ 428 | $ 7,633 | N/A |
| 03-506-50010 | Labor | $ 616,295 | $ 39,186 | $ 428,440 | 69.52% |
| 03-506-50011 | Labor - Credit | $ - | $ - | $ 274 | N/A |
| 03-506-50012 | Director Fees | $ 26,000 | $ 1,790 | $ 20,711 | 79.66% |
| 03-506-50013 | Benefits-FICA | $ 47,147 | $ 3,548 | $ 35,215 | 74.69% |
| 03-506-50014 | Benefits-Life Insurance | $ 3,120 | $ 75 | $ 866 | 27.74% |
| 03-506-50016 | Benefits-Health & Def Comp | $ 122,640 | $ 14,073 | $ 148,468 | 121.06% |
| 03-506-50017 | Benefits  Disability Insurane | $ 5,547 | $ 566 | $ 6,015 | 108.44% |
| 03-506-50019 | Benefits-Workers Compensation | $ 16,640 | $ 1,200 | $ 11,076 | 66.56% |
| 03-506-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 03-506-50022 | Benefits-PERS Employer | $ 92,444 | $ 3,068 | $ 35,475 | 38.37% |
| 03-506-50023 | Benefits-Uniforms | $ 3,250 | $ - | $ 204 | 6.29% |
| 03-506-50024 | Benefits-Vacation & Sick Pay | $ 5,000 | $ (0) | $ 5,000 | 100.00% |
| 03-506-50025 | Benefits-Boots | $ 1,950 | $ - | $ 300 | 15.38% |
| 03-506-50055 | Pension Expense-GASB 68 | $ - | $ - | $ - | N/A |
| 03-506-51120 | Safety Equipment & Supplies | $ 9,500 | $ - | $ 5,524 | 58.15% |
| 03-506-51125 | Petroleum Products | $ 24,000 | $ 2,000 | $ 23,232 | 96.80% |
| 03-506-51130 | Office Supplies & Expenses | $ 7,000 | $ 19 | $ 6,875 | 98.21% |
| 03-506-51140 | General Supplies & Expenses | $ 30,000 | $ 636 | $ 11,497 | 38.32% |
| 03-506-51199 | Disaster Repairs & Incidences | $ - | $ - | $ (13,093) | N/A |

| FY 2019-20 Sewer Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 03-506-54002 | Dues & Subscriptions | $ 30,000 | $ 716 | $ 30,759 | 102.53% |
| 03-506-54003 | Management & Admin Services | $ 210,000 | $ 17,500 | $ 175,000 | 83.33% |
| 03-506-54005 | Computer Expenses | $ 120,000 | $ (9,559) | $ 63,402 | 52.84% |
| 03-506-54011 | Printing & Publications | $ - | $ - | $ - | N/A |
| 03-506-54012 | Education & Training | $ 20,000 | $ 260 | $ 10,770 | 53.85% |
| 03-506-54014 | Public Relations | $ 25,000 | $ 3,938 | $ 7,861 | 31.45% |
| 03-506-54016 | Travel Related Expenses | $ 10,000 | $ - | $ 9,555 | 95.55% |
| 03-506-54017 | Certifications & Renewals | $ 10,000 | $ - | $ 4,108 | 41.08% |
| 03-506-54019 | Licenses & Permits | $ 70,000 | $ 833 | $ 77,172 | 110.25% |
| 03-506-54020 | Meeting Related Expenses | $ 5,000 | $ 189 | $ 5,777 | 115.54% |
| 03-506-54022 | Utilities - YVWD Services | $ 265,000 | $ - | $ 264,869 | 99.95% |
| 03-506-54024 | Waste Disposal | $ 14,000 | $ - | $ 24,662 | 176.15% |
| 03-506-54025 | Telephone & Internet | $ 50,000 | $ 4,221 | $ 48,734 | 97.47% |
| 03-506-54030 | Drinking Water | $ - | $ - | $ - | N/A |
| 03-506-54104 | Contractural Services | $ 46,000 | $ 1,822 | $ 122,699 | 266.74% |
| 03-506-54107 | Legal | $ 30,000 | $ - | $ 9,946 | 33.15% |
| 03-506-54108 | Audit & Accounting | $ 15,000 | $ - | $ 11,565 | 77.10% |
| 03-506-54109 | Professional Fees | $ 1,567,274 | $ - | $ 614,333 | 39.20% |
| 03-506-55500 | Depreciation | $ 472,982 | $ 39,415 | $ 394,152 | 83.33% |
| 03-506-56001 | Insurance | $ 130,000 | $ 14,242 | $ 130,035 | 100.03% |
| 03-506-57030 | Regulatory Compliance | $ 70,000 | $ - | $ 56,986 | 81.41% |
| | **ADMINISTRATION TOTALS** | **$ 4,170,789** | **$ 140,162** | **$ 2,796,096** | **67.04%** |
| 03-507-50009 | Labor - Overtime | $ - | $ 1,429 | $ 17,234 | N/A |
| 03-507-50010 | Labor | $ 625,069 | $ 40,465 | $ 442,338 | 70.77% |
| 03-507-50011 | Labor - Credit | $ - | $ - | $ - | 0.00% |
| 03-507-50013 | Benefits-FICA | $ 47,818 | $ 3,535 | $ 40,194 | 84.06% |
| 03-507-50014 | Benefits-Life Insurance | $ 3,864 | $ 102 | $ 1,160 | 30.02% |
| 03-507-50016 | Benefits-Health & Def Comp | $ 151,662 | $ 13,982 | $ 156,296 | 103.06% |
| 03-507-50017 | Benefits-Disability Insurance | $ 5,626 | $ 560 | $ 7,054 | 125.38% |
| 03-507-50019 | Benefits-Workers Compensatio | $ 16,877 | $ 2,571 | $ 18,923 | 112.12% |
| 03-507-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 03-507-50022 | Benefit-PERS Employer | $ 93,760 | $ 3,009 | $ 34,966 | 37.29% |
| 03-507-50023 | Benefits-Uniforms | $ 4,025 | $ 75 | $ 2,801 | 69.59% |
| 03-507-50024 | Benefits-Vacation & Sick Pay | $ 40,000 | $ 2,053 | $ 45,062 | 112.66% |
| 03-507-50025 | Benefits-Boots | $ 2,415 | $ - | $ 600 | 24.84% |
| 03-507-51003 | Sewer Pipeline & Facilities | $ 250,000 | $ 6,024 | $ 163,146 | 65.26% |
| 03-507-51140 | General Supplies & Expenses | $ 500 | $ 186 | $ 1,082 | 216.34% |
| 03-507-51241 | Lift Station #1 | $ 52,500 | $ 4,458 | $ 42,557 | 81.06% |
| 03-507-51242 | Lift Station #2 | $ 18,000 | $ 2,927 | $ 14,474 | 80.41% |
| 03-507-51243 | Lift Station #3 | $ 3,200 | $ 134 | $ 4,776 | 149.26% |
| 03-507-51244 | Lift Station #4 | $ 9,500 | $ 756 | $ 18,082 | 190.34% |
| 03-507-51246 | Lift Station #6 | $ 5,000 | $ 323 | $ 4,061 | 81.22% |

| FY 2019-20 Sewer Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 03-507-51248 | Lift Station #8 | $ 2,500 | $ 55 | $ 1,347 | 53.88% |
| 03-507-54012 | Education & Training | $ - | $ - | $ 250 | N/A |
| 03-507-54025 | Telephone & Internet | $ - | $ 144 | $ 1,344 | N/A |
| 03-507-54111 | Pretreatment | $ 50,000 | $ - | $ 41,443 | 82.89% |
| | **ENVIRONMENTAL CONTROL TOTAL** | **$ 1,382,316** | **$ 82,789** | **$ 1,059,191** | **76.62%** |
| | | | | | |
| 03-540-57202 | SRF Principal - WWTP | $ 2,306,368 | $ - | $ 2,306,368 | 100.00% |
| 03-540-57203 | SRF Principal - Brineline | $ 447,138 | $ - | $ 447,138 | 100.00% |
| 03-540-57204 | SRF Principal - Wise | $ 136,599 | $ - | $ 136,599 | 100.00% |
| 03-540-57205 | SRF Principal - R 10.3 | $ 40,023 | $ - | $ 40,023 | 100.00% |
| 03-540-57206 | SRF Principal - Crow St | $ 15,667 | $ - | $ 15,649 | 99.89% |
| 03-540-57403 | Interest - Long Term Debt | $ 887,924 | $ - | $ 887,917 | 100.00% |
| | **40 - Debt** | **$ 3,833,719** | **$ -** | **$ 3,833,694** | **100.00%** |
| | | | | | |
| 03-540-57002 | Asset Acq. - Treatment Dept | $ - | $ - | $ - | |
| 03-540-57006 | Asset Acq. - Admin Dept | $ - | $ - | $ - | |
| 03-540-57007 | Asset Acq. - EC Dept | $ - | $ - | $ - | |
| | **40 - Capital Outlay** | **$ -** | **$ -** | **$ -** | |
| | | | | | |
| | **TOTAL SEWER EXPENSES** | **$ 13,584,986** | **$ 482,921** | **$ 11,298,422** | **83.17%** |

| FY 2019-20 Recycled Expenses | | | | | |
|---|---|---|---|---|---|
| G/L ACCOUNT # | DESCRIPTION | BUDGET | April '20 | Year to Date | % |
| 04-506-50009 | Labor - Overtime | $ - | $ 517 | $ 5,392 | N/A |
| 04-506-50010 | Labor | $ 705,207 | $ 39,105 | $ 397,840 | 56.41% |
| 04-506-50011 | Labor - Credit | $ - | $ - | $ - | N/A |
| 04-506-50012 | Director Fees | $ 5,000 | $ - | $ - | 0.00% |
| 04-506-50013 | Benefits-FICA | $ 53,948 | $ 3,188 | $ 30,858 | 57.20% |
| 04-506-50014 | Benefits-Life Insurance | $ 3,600 | $ 86 | $ 818 | 22.72% |
| 04-506-50016 | Benefits-Health & Def Comp | $ 143,004 | $ 12,815 | $ 117,213 | 81.97% |
| 04-506-50017 | Benefits-Disability Insurance | $ 6,347 | $ 577 | $ 5,543 | 87.33% |
| 04-506-50019 | Benefits-Workers Compensation | $ 19,041 | $ 1,200 | $ 8,783 | 46.12% |
| 04-506-50021 | Benefits-PERS Employee | $ - | $ - | $ - | N/A |
| 04-506-50022 | Benefits-PERS Employer | $ 105,781 | $ 2,965 | $ 31,781 | 30.04% |
| 04-506-50023 | Benfits-Uniforms | $ 3,750 | $ 17 | $ 1,540 | 41.08% |
| 04-506-50024 | Benefits-Vacation & Sick Pay | $ - | $ (0) | $ (0) | N/A |
| 04-506-50025 | Benefits-Boots | $ 4,750 | $ - | $ 1,200 | 25.26% |
| 04-506-51003 | R&M - Structures | $ 26,519 | $ - | $ 23,093 | 87.08% |
| 04-506-51011 | R&M - Valves | $ 500 | $ - | $ - | 0.00% |
| 04-506-51020 | R&M - Pipelines | $ 500 | $ - | $ 1,324 | 264.84% |
| 04-506-51021 | R&M - Service Lines | $ 4,000 | $ - | $ - | 0.00% |
| 04-506-51022 | R&M - Fire Hydrants | $ 4,000 | $ - | $ - | 0.00% |
| 04-506-51030 | R&M - Meters | $ 1,500 | $ - | $ - | 0.00% |
| 04-506-51140 | General Supplies & Expenses | $ 7,000 | $ 737 | $ 4,555 | 65.07% |
| 04-506-51210 | Utilities - Power Purchases | $ 84,500 | $ 1,679 | $ 49,677 | 58.79% |
| 04-506-54002 | Dues & Subscriptions | $ 3,000 | $ - | $ 2,895 | 96.50% |
| 04-506-54005 | Computer Expenses | $ 11,000 | $ 2,625 | $ 8,250 | 75.00% |
| 04-506-54011 | Printing & Publications | $ - | $ - | $ - | N/A |
| 04-506-54012 | Education & Training | $ 3,500 | $ - | $ 741 | 21.17% |
| 04-506-54014 | Public Relations | $ 4,200 | $ 875 | $ 540 | 12.86% |
| 04-506-54016 | Travel Related Expenses | $ 1,000 | $ - | $ 646 | 64.59% |
| 04-506-54017 | Certifications & Renewals | $ 500 | $ - | $ - | 0.00% |
| 04-506-54019 | Licenses & Permits | $ 7,500 | $ - | $ 11,898 | 158.64% |
| 04-506-54020 | Meeting Related Expenses | $ 1,400 | $ - | $ 868 | 62.03% |
| 04-506-54022 | Utilities - YVWD Services | $ 12,500 | $ - | $ 4,210 | 33.68% |
| 04-506-54025 | Telephone & Internet | $ 1,400 | $ 80 | $ 1,207 | 86.25% |
| 04-506-54104 | Contractural Services | $ 10,000 | $ 200 | $ 10,762 | 107.62% |
| 04-506-54107 | Legal | $ 500 | $ - | $ - | 0.00% |
| 04-506-54108 | Audit & Accounting | $ 4,000 | $ - | $ 2,570 | 64.25% |
| 04-506-54109 | Professional Fees | $ 30,000 | $ - | $ 12,595 | 41.98% |
| 04-506-54110 | Laboratory Services | $ - | $ - | $ - | N/A |
| 04-506-55500 | Depreciation | $ - | $ - | $ - | N/A |
| 04-5-06-56001 | Insurance | $ 25,000 | $ 2,785 | $ 16,689 | 66.76% |
| 04-5-06-57030 | Regulatory Compliance | $ 6,500 | $ - | $ 7,645 | 117.61% |
| 04-5-06-57040 | Environmental Compliance | $ 500 | $ - | $ - | 0.00% |
| | | | | | |
| | **TOTAL RECYCLED EXPENSES** | **$ 1,301,447** | **$ 69,451** | **$ 761,132** | **58.48%** |

Yucaipa Valley Water District

# Director Memorandum 20-069

**Date:** May 12, 2020

**Prepared By:** Joseph B. Zoba, General Manager

**Subject:** Adoption of the 2020 Strategic Priorities, Goals and Objectives

**Recommendation:** That the Board, by minute order, adopt the 2020 strategic planning priorities.

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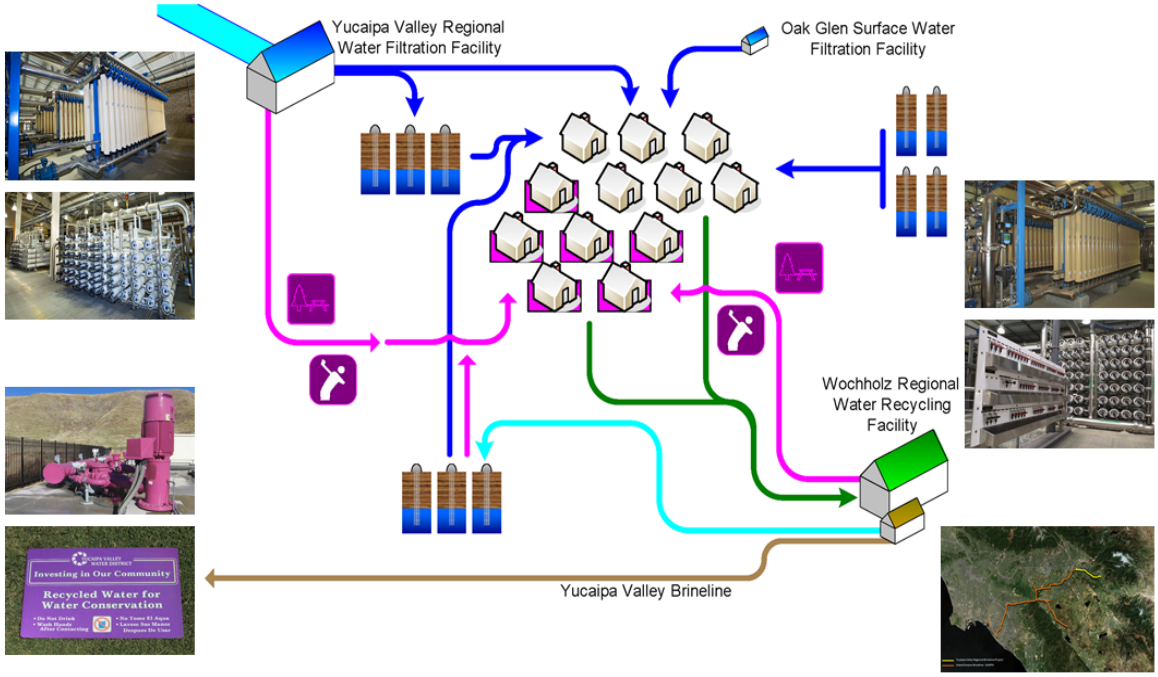
Over the past several decades, the Yucaipa Valley Water District has embarked on a series of capital improvement projects that have created integrated systems of drinking water, recycled water, sewer treatment, and brine disposal facilities. The integration of these facilities has set the Yucaipa Valley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

## Sustainable and Integrated Infrastructure Concepts




Each year the Board of Directors uses the strategic planning process to set priorities for capital improvement projects and related programs that result in additional supplies of high quality water for our community. The following document establishes the strategic planning priorities for this year.

Yucaipa Valley Water District

# 2020 Strategic Priorities, Goals, and Objectives

Adopted on May 12, 2020

On August 28, 2009, the Board of Directors of the Yucaipa Valley Water District adopted A Strategic Plan for a Sustainable Future - The Integration and Preservation of Resources. The development of this document was made possible by the contribution of ideas and concepts by the Board of Directors, District staff, members of the public, and various stakeholders. The constructive suggestions and diverse perspectives allowed us as a community to begin our journey towards a sustainable future.

In summary, the steps taken by the District to protect and conserve our natural resources are based on the concepts that:

- Resources are not limitless and therefore need to be conserved, nurtured, and renewed; and

- Resources that are used to generate short-term gains result in an inefficient and inequitable consumption of resources that are not beneficial for a long-term strategy.

By embracing these foundational concepts, the District has been able to routinely make decisions that are conservative, thoughtful, and conscious of the role we play today to achieve the established goals of our long-term strategy.

The management of our water resources is extremely complex and multi-faceted. It is foolish the assume that a single solution exists to solve complex water resource management issues into the future. Instead, we must take small steps on paths that are not frequently traveled towards the desired outcome.

By constantly reviewing the strategic priorities of the District, we are able to make tremendous strides and progress towards a reliable and sustainable future for the community we serve. Therefore, this annual review of our strategic priorities represents the small steps that will lead to amazing achievements.

Yucaipa Valley Water District

# 2020 Strategic Priorities, Goals and Objectives

- **Monitoring Operations and Reporting Enhancements (MORE) Project** - In 2018, the Board of Directors authorized the initiation of the Monitoring Operations and Reporting Enhancement (MORE) Project. This project monitors and records the operational status of the advanced treated water produced from the Wochholz Regional Water Recycling Facility. The primary elements of the MORE project include:
    - The monitoring and removal of Contaminants of Emerging Concerns (CEC);
    - The publication of reverse osmosis chemical removal test results;
    - The continuous operation of microfiltration and reverse osmosis processes at the Wochholz Regional Water Recycling Facility to achieve drinking water compliance standards;
    - The initiation of additional microfiltration and reverse osmosis virus removal studies; and
    - The demonstration of reverse osmosis reliability through automated conductivity profiling.

- **Indirect Potable Reuse** - Plan and evaluate the opportunities and constraints related to implementation of indirect potable reuse to produce additional drinking water supplies in the future. This strategic goal will involve the recharge of recycled water at the Wilson Creek Spreading Basins.

- **Calimesa Aquifer Storage and Recovery (ASR) Facilities** - The Calimesa Aquifer Storage and Recovery Program will utilize the local groundwater basin for the additional storage and extraction of both recycled water and drinking water. This project will involve the construction of a lake and groundwater injection facilities in the Beaumont Basin to maximize the operational efficiency of groundwater resources within the Calimesa portion of the District's service area.

- **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 regular press releases to inform the public about District projects.

- **Energy Efficiency Improvements** - Plan and evaluate opportunities and constraints related to implementation of solar, microturbines, biogas, and other technologies to stabilize future energy expenses. This strategic goal will involve the investigation of innovative technologies and programs to become more energy efficient.

- **Septic Tank Elimination Program** - The implementation of a Septic Tank Elimination Program will provide a mechanism for customers to eliminate their septic system to protect groundwater quality for the future. This strategic planning element will involve the installation of sewer infrastructure in areas that are currently served by septic system.

- **Advanced Metering Infrastructure** - The District staff will continue to complete the installation of Advanced Metering Infrastructure (AMI) throughout the District. This system will be expanded this year to include pressure monitoring throughout the distribution system.

Yucaipa Valley Water District

# Director Memorandum 20-070

**Date:** May 12, 2020

**Prepared By:** Kathryn Hallberg, Implementation Manager

**Subject:** Status Report on the Advanced Metering Infrastructure Project

**Recommendation:** Staff Presentation - No Action Required.

Yucaipa Valley Water District was awarded a $1,000,000 United States Bureau of Reclamation WaterSMART: Water and Energy Efficiency Grant on October 2, 2018 for the District's Advanced Metering Infrastructure (AMI) Project. On March 7, 2019, the District was notified the environmental compliance activities were complete and the construction for the project began.

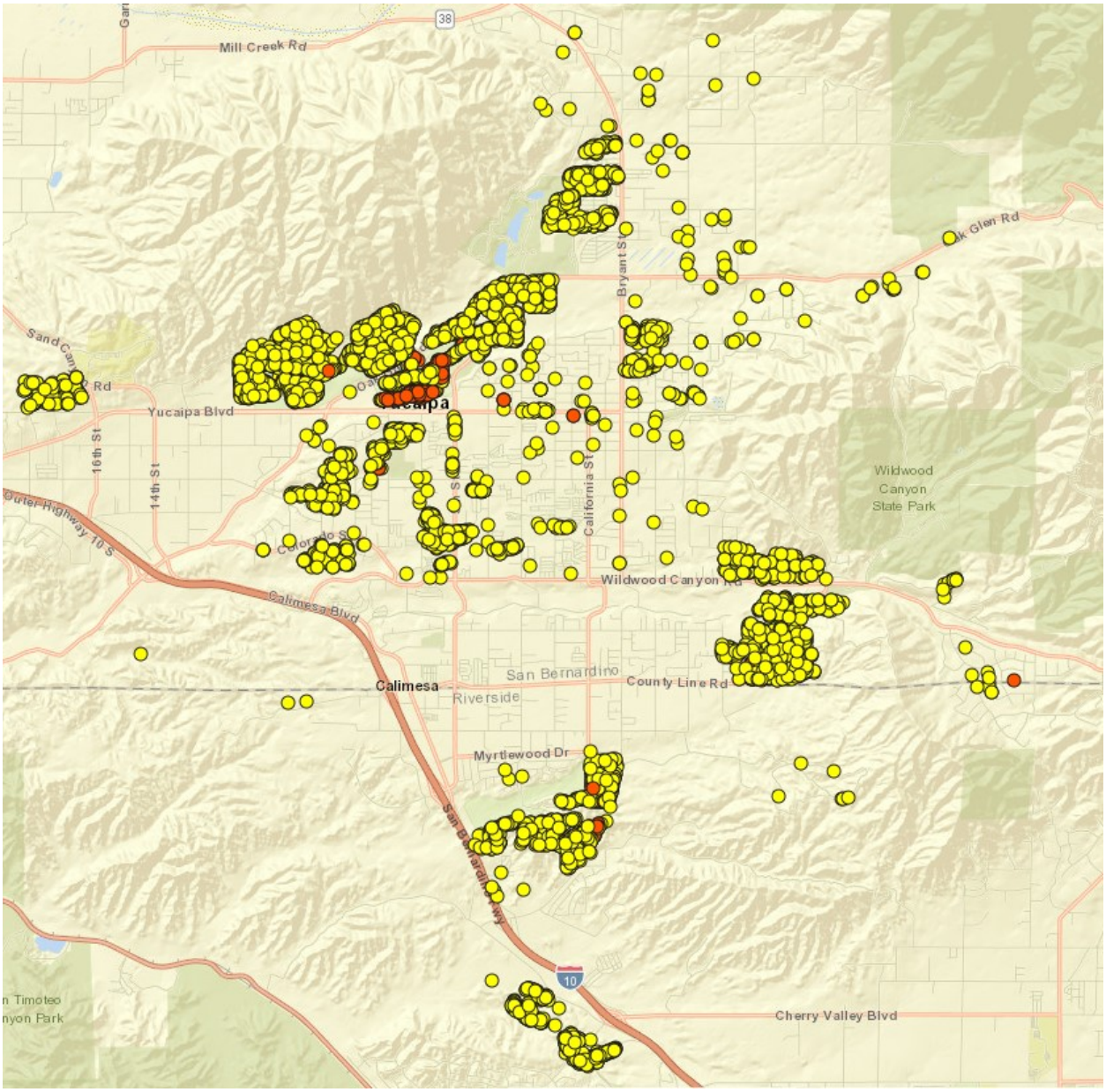
As detailed in the following table the project was ahead of schedule for 2019 and remains ahead schedule for 2020. District staff estimates that an additional 3,000 AMI meters will be installed and functioning by the end of the calendar year for 2020. Currently 8,091 AMI meters are automatically read, with an estimated 11,000 being read by the end of 2020. This has greatly reduced the amount of time required for District staff to read meters manually throughout the District.

On December 3, 2019, the District received a $436,745.10 reimbursement from the U.S. Bureau of Reclamation per the grant guidelines. The District has requested an additional $329,157.13 reimbursement for the cost of the AMI project from October 2019 to April 2020. District staff anticipates receiving this reimbursement in May 2020.

## AMI Project - Projected/Estimated Meter Appurtenance Quantities

| Action | Description | Quarterly Install Rate | | | | 2019 Estimates | | 2019 Actual | |
|---|---|---|---|---|---|---|---|---|---|
| | | Q-1 | Q-2 | Q-3 | Q-4 | Quantity | Cost | Quantity | Cost |
| **Retrofit** | Radio Transceiver | 1200 | 1200 | 1200 | 1200 | 4,800 | $771,000 | 4000 | $641,112 |
| **Replacement** | AMI Capable Meter | 50 | 50 | 50 | 50 | 200 | $58,000 | 2000 | $254,721 |
| **Replacement** | Smart Point Lid | 1250 | 1250 | 1250 | 1250 | 5,000 | $162,000 | 2900 | $97,569 |
| **Endpoint Installations** | | 1250 | 1250 | 1250 | 1250 | 5,000 | $991,000 | 6000 | $993,402 |
| **Action** | **Description** | **Quarterly Install Rate** | | | | **2020 Estimates** | | **2020 Actual (To Date)** | |
| | | **Q-1** | **Q-2** | **Q-3** | **Q-4** | **Quantity** | **Cost** | **Quantity** | **Cost** |
| **Retrofit** | Radio Transceiver | 966 | 966 | 966 | 966 | 3864 | $574,770 | 2203 | $353,093 |
| **Replacement** | AMI Capable Meter | 912 | 912 | 912 | 912 | 3,648 | $431,194 | 1455 | $185,310 |
| **Replacement** | Smart Point Lid | 966 | 966 | 966 | 966 | 3,864 | $119,000 | 0 | $0 |
| **Endpoint Installations** | | 966 | 966 | 966 | 966 | 3,864 | $1,124,964 | 3658 | $538,403 |
| **Action** | **Description** | **Quarterly Install Rate** | | | | **2021 Estimates** | | **2021 Actual** | |
| | | **Q-1** | **Q-2** | **Q-3** | **Q-4** | **Quantity** | **Cost** | **Quantity** | **Cost** |
| **Retrofit** | Radio Transceiver | 912 | 912 | 912 | 912 | 3,648 | $542,640 | | |
| **Replacement** | AMI Capable Meter | 912 | 912 | 912 | 912 | 3,648 | $431,194 | | |
| **Replacement** | Smart Point Lid | 912 | 912 | 912 | 912 | 3,648 | $112,504 | | |
| **Endpoint Installations** | | 912 | 912 | 912 | 912 | 3,648 | $1,086,339 | | |
| **Total Installations 2019-2021** | | | | | | 12,512 | $3,202,302 | | |

The map below indicates the location of meters that are currently read automatically. Chapman Heights, The Reserve, JP Ranch, and Summerwind Trails are completely converted to AMI and no longer require physical reads. Also, a large part of Hidden Meadows, and through the canyons are also converted to AMI.




Funding for this project in addition to the $1,000,000 grant is from the Water Fund, Infrastructure Reserves [G/L Account #02-000-10311]. This project is included in the 2019-20 budget as a Capital Improvement Project. There is sufficient funding available in the reserve fund listed above.

Yucaipa Valley Water District

# Director Memorandum 20-071

**Date:** May 12, 2020

**Prepared By:** Dustin Hochreiter, Senior Engineering Technician
Matthew Porras, Implementation Manager

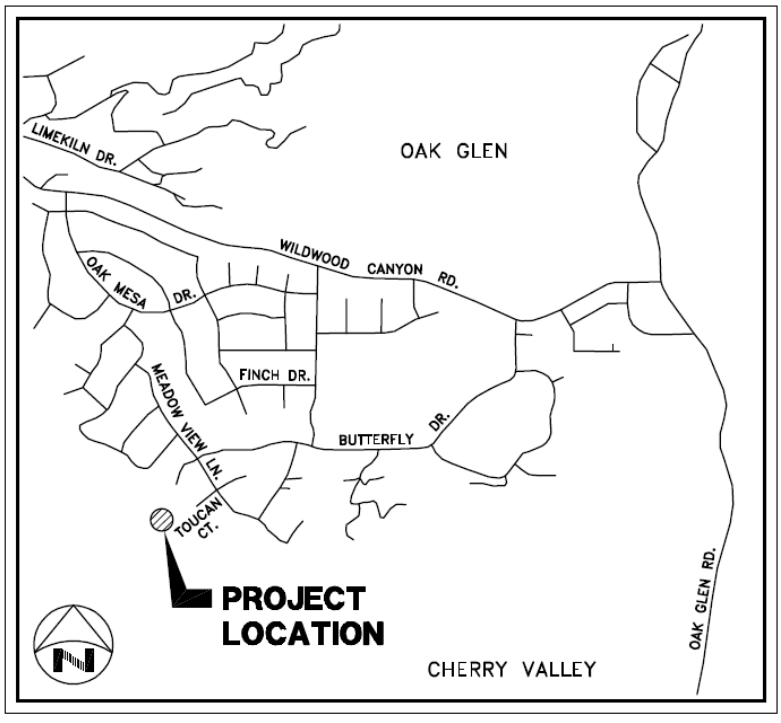
**Subject:** Status Report of Electrical Service for Improvements at Drinking Water Reservoir R-18.4

**Recommendation:** Staff Presentation - No Action Required.

The District owns and operates 27 drinking water reservoirs and 5 recycled water reservoirs as a part of the respective distribution systems. The District is in the process of adding electrical service to the drinking water reservoir site R-18.4 located off Toucan Court in Riverside County. The site requires reliable power to communicate with the Supervisory Control and Data Acquisition (SCADA) system that manages the drinking water distribution system. The current electrical demand for this site is supplied by a small solar panel and two deep cycle automotive style batteries. The District only operates two other sites in this manner, R-16.2 and R-17.51/R-17.52. These battery powered sites can be problematic and require additional maintenance for consistent performance.

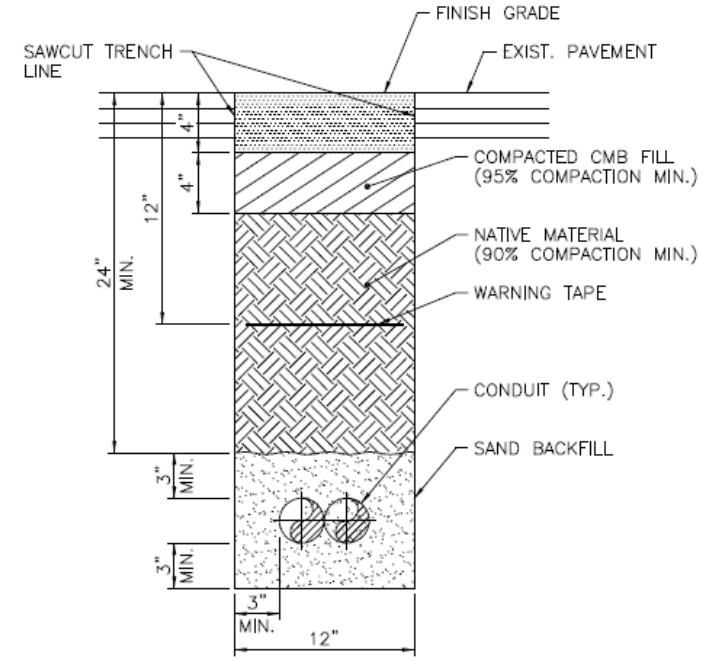
The R-18.4 site has been identified as an especially important location for the operation of the Automated Meter Infrastructure (AMI) as the physical location provides the most complete signal coverage.

This project includes the installation of an electrical service line buried in conduit from the existing meter pedestal to the service panel located near the reservoir and making all necessary connections for the electrical service to be operational. The future electrical service line will be approximately 1,400 linear feet and will include a spare empty conduit.




**LOCATION MAP**

NOT TO SCALE


**CONDUIT TRENCH DETAIL** 1

N.T.S.

The access road (pictured above) is used by the District to maintain the reservoir site as well as by the property owner of the adjacent parcel and will be paved over the trench after the conduit is installed. The final topcoat slurry seal will be applied over the entire road surface once the all work has been completed as a part of a separate paving contract. The preliminary construction drawings have been completed which will be the basis of the construction contract.

On March 24, 2020, [Director Memorandum 20-033], the Board of Directors authorized the General Manager proceed with Titan Electric to install electrical service at Reservoir R-18.4 for a sum not to exceed $79,750. The District's site contractor mobilized on April 30, 2020 to begin the work. The attached pictures show the trench excavation to prepare for the installation of the pair of conduits.

Financial Consideration: - This project is included in the 2019-20 Capital Improvement Plan and was initially estimated for $150,000. Funding for this project is from the Water Fund, Infrastructure Reserves [G/L Account #02-000-10311].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Yucaipa Valley Water District

# Director Memorandum 20-072

**Date:** May 12, 2020

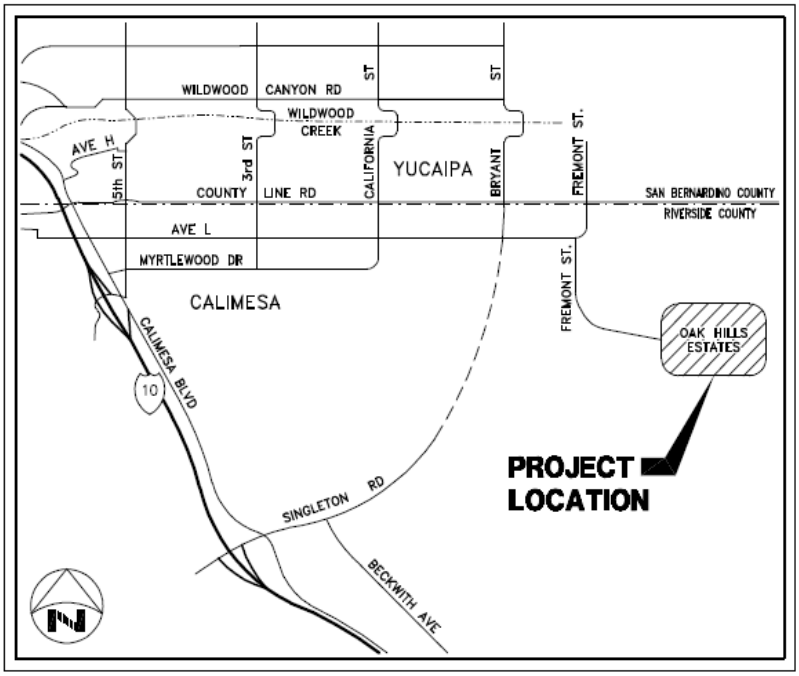
**Prepared By:** Matthew Porras, Implementation Manager

**Subject:** Status Report of the Replacement of the Drinking Water Reservoir R-16.6 - Calimesa

**Recommendation:** Staff Presentation - No Action Required.

The District owns and operates a drinking water storage facility [Asset ID: PW-R-13016.6] that was initially put into service in the early 1980's when the Oak Hills Estates residential area was developed. The R-16.6 reservoir serves drinking water to the 16.6 pressure zone within the residential area.

In the past few years of the reservoir's almost 40-year life, District staff has been observing and monitoring the deteriorating condition. Most recently, numerous leaks on the exterior walls of the tank have developed and have signaled the end of this asset's useful life. The replacement of this tank is recommended before the condition becomes more severe.




**LOCATION MAP**

NOT TO SCALE

On December 17, 2019, the Board of Directors awarded a contract to Superior Tank Company for the replacement of Drinking Water Reservoir R-16.6 for a sum not to exceed $565,668 [Director Memorandum 19-138]. The new tank will comply with current seismic requirements with a concrete ring wall that will provide the tank a solid foundation and secure bolt down installation. Our current tank is 24 feet tall and 37 feet in diameter with approximately 195,000 gallons of useable capacity. Without extensive grading, the new tank can be increased in size to 32 feet tall and 47 feet wide. The additional height of the new tank would provide the freeboard needed to comply with updated construction standards and the additional width would provide the usable capacity of approximately 298,000 gallons, an increase of over 100,000 gallon capacity.

A geotechnical report was completed to ensure the proposed tank is designed and constructed appropriately. The necessary environmental documents have been completed and filed with the State Clearing House (SCH Number 2019100374) on October 18, 2019 and the required 30 day time period has been fulfilled. District staff installed the temporary tanks and has made the necessary connections to the existing onsite piping. The temporary tank installation and operation are not included in the construction contract.

The existing tank has been demolished and removed from the site. The required over-excavation of the tank site is complete. The forms and rebar for the concrete ring-wall foundation are installed and the concrete has been poured. After the testing of the concrete, a single repair is required. The contractor is removing the failed section of concrete and will re-pour the area. After the concrete work is complete, the tank will be delivered and assembled.

This project will be paid for by the Water Fund, Facility Capacity Charge (FCC) Water Storage Reservoirs Account [G/L Account #02-000-10413]. This project was included in the CIP budget estimated for fiscal year 2021-22 but as a result of the urgency will be moved to the current fiscal year.

Yucaipa Valley Water District

# Director Memorandum 20-073

**Date:** May 12, 2020

**Prepared By:** Joseph B. Zoba, General Manager

**Subject:** Consideration of a Design-Bid Contract with Separation Processes for Secondary Treatment Process Improvements at the Wochholz Regional Water Recycling Facility

**Recommendation:** That the Board authorize the General Manager to enter into a contract with Separation Processes for a sum not to exceed $158,753.

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On January 14, 2020, Operations Manager Charles Thomas presented information about a site tour to the Manteca and Sacramento Regional wastewater plants to view the use of fine bubble air diffusers as part of the aeration treatment process.

The installation of fine bubble diffusers and the replacement of the existing blowers will significantly improve the air transfer efficiency, life span of the secondary treatment system, maintenance costs, and energy efficiency.

The District staff received the attached proposal from Separation Processes as a design-bid contract to replace the existing coarse bubble diffusers with fine bubble diffusers and to install new blowers that are significantly more energy efficient.

The Membrane Technology Consultants

Separation Processes, Inc.
3152 Lionshead Ave.
Carlsbad, CA 92010
Tel: 760-400-3660
Fax: 760-400-3661
www.spi-engineering.com

April 29, 2020

Mr. Joseph B. Zoba
General Manager
Yucaipa Valley Water District
12770 Second Street
Yucaipa, CA 92508

RE: Wochholz Secondary Treatment Improvements Project

Dear Mr. Zoba,

Separation Processes, Inc. (SPI) is pleased to offer this proposal for engineering services to assist the Yucaipa Valley Water District with the design and installation of improvements to the Henry N. Wochholz Regional Water Reclamation Facility (WRWRF) secondary treatment process.

***Background***

The existing facility operates as a conventional wastewater facility with advanced nitrogen removal. A major component of the advanced nitrogen removal system is the AnoxKaldnes Biofilm and Activated Sludge (HYBAS™) process. This process uses Integrated Fixed Film Activated Sludge (IFAS) media to encourage growth of biomass and enhance treatment.

The facility has had issues with foam since startup of the secondary treatment retrofit in 2008. In the summer months there may be about 1-2 feet of foam in the aeration tanks. During the winter months the foaming can be worse with about 3 feet of foam in the aeration tanks. The foam can make its way back to the anoxic basins or downstream to the secondary clarifiers during the winter months. When severe foam events occur, the foam can overflow the aeration tanks.

The foam issue has been a nuisance to the plant operators and has added cost to operation of the facility. Various foam control measures have been employed with limited success. YVWD has adopted the approach of investigating the cause of the foam and making efforts to remediate that cause, rather than managing the foam after it is formed. Nocardia and other foam-causing microorganisms contribute to the foam generation, but the root cause of the foam generation was determined to be excess IFAS media in the aeration basins.

A BioWin model of the Wochholz facility was developed to assist with understanding the potential effects of process changes on effluent water quality and process operating parameters. The BioWin model was used to evaluate the effects of aeration tank IFAS media fill percentage, DO concentration setpoint, and temperature on secondary effluent water quality and aeration rate. The model suggested that IFAS media fill could be decreased with minimal difference in secondary effluent water quality.

An alternative to partial removal of IFAS media would be to remove all of the media and replace the existing aeration tank coarse bubble diffusers with fine bubble diffusers. This would decrease the aeration air requirements, necessitating replacement of the existing oversized aeration blowers with new blowers. Additional BioWin modeling was conducted to confirm that fine bubble diffusers could provide sufficient aeration with the existing aeration tanks and still achieve secondary effluent water quality. This project is for preparation of pre-design reports, design documents, and construction assistance for the installation of fine bubble diffusers and new aeration blowers.

The project has been broken down into the following major tasks. It is assumed that the District will execute the project as a design-bid.

Task 100 Project Management:
Project management will be provided for each individual task to include communications, account management, and quality assurance/quality control efforts not specifically identified in the tasks below.

Task 200 Pre-Design Reports:
A draft and final Aeration Blower Memorandum will be prepared. This memorandum will evaluate three blower types – multistage centrifugal, positive displacement, and turbo- and provide a recommendation to the District.

A draft and final Preliminary Engineering Report (PER) will be prepared to summarize the secondary treatment improvements.

Task 300 Design Phase:
Plans and specifications will be prepared and submitted to the District at 60%, 90% and final completion. Assistance during the bid period will be provided.

Task 400 – Construction Phase:

Construction Phase services include shop drawing review, start up assistance, operator training, and preparation of an O&M manual update and record drawings.

***Personnel***

The proposed work will be managed by Charles Cruz, P.E, with assistance from Jim Vickers, PE, Mike Dummer, P.E. and SPI Staff. These individuals have provided services to the District on previous projects. SPI will serve as the prime engineer for this effort with assistance from a subconsultant (GHD) for electrical engineering design services. The project budget also includes an amount to Dudek to address additional modeling associated with the blower system for future conditions. It is assumed that the District will procure services for SCADA and control programming.

***Proposed Budget***

Services for this project will be billed monthly at the following rates:

| | |
|---|---|
| Principal | $248/hr |
| Senior Project Manager | $236/hr |
| Project Engineer II | $157/hr |
| CAD Designer | $120/hr |
| Administrative | $75/hr |
| Authorized Expenses (reproduction costs) | as incurred |
| Travel | $0.575/mile |

The proposed work will be performed for a total not-to-exceed fee of $158,753. An estimate has been attached for your review.

***Schedule***

The preparation of the Pre-Design Reports and design submittal documents will take about 6 to 8 weeks from the notice to proceed from the District.

We hope this proposal meets the needs of the District. Please do not hesitate to contact me with any questions or if revision is needed.

Very Truly Yours,

James C. Vickers

James C. Vickers, P.E.
President

# Attachment B
## Yucaipa Valley Water District
## Henry N. Wochholz Regional Water Reclamation Facility
## Secondary Treatment Improvements
## Proposed Scope of Services

April 15, 2020 Rev. 0

| | | Rate | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | $248 | $236 | $157 | $125 | $90 | $75 | | | | | |
| | ***Task 100 Project Management*** | **PM2** | **PM1** | **ENG2** | **CAD2** | **CAD1** | **ADMIN** | **TMH** | **Labor** | **ODC** | **Sub** | **Total** |
| 110 | Project Administration | 4 | 8 | | | | 10 | **22** | $3,630 | $290 | | $3,920 |
| 120 | Project Meetings | 8 | 8 | | | | | **16** | $3,872 | $310 | | $4,182 |
| | **TOTALS** | **12** | **16** | **0** | **0** | **0** | **10** | **38** | **$7,502** | **$600** | **$0** | **$8,102** |

| | ***Task 200 - Pre-Design Reports*** | **PM2** | **PM1** | **ENG2** | **CAD2** | **CAD1** | **ADMIN** | **TMH** | **Labor** | **ODC** | **Sub** | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 200 | Biological Modeling | **4** | **8** | | | | | **12** | $2,880 | $230 | $4,200 | $3,110 |
| 210 | Draft Aeration Blower Memorandum | 2 | 12 | 12 | 4 | | | **30** | $5,712 | $460 | | $6,172 |
| 220 | Final Aeration Blower Memorandum | 1 | 8 | 8 | 2 | | | **19** | $3,642 | $290 | | $3,932 |
| 230 | Draft Preliminary Engineering Report (PER) | 2 | 12 | 16 | 8 | | | **38** | $6,840 | $550 | $2,100 | $7,390 |
| 240 | Final Preliminary Engineering Report (PER) | 1 | 6 | 8 | 4 | | | **19** | $3,420 | $270 | $1,050 | $3,690 |
| 250 | Electrical | 4 | 4 | | | | | **8** | $1,936 | $150 | $5,250 | $2,086 |
| 260 | SCADA and Control Programming | 4 | 16 | | | | | **20** | $4,768 | $380 | | $5,148 |
| | **TOTALS** | **18** | **66** | **44** | **18** | **0** | **0** | **146** | **$29,198** | **$2,330** | **$12,600** | **$31,528** |

| | ***Task 300 - Design Phase*** | **PM2** | **PM1** | **ENG2** | **CAD2** | **CAD1** | **ADMIN** | **TMH** | **Labor** | **ODC** | **Sub** | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 310 | Project Meetings | 8 | 16 | | | | | **24** | $5,760 | $460 | | $6,220 |
| 320 | Design Submittal 1 (60 percent) | 2 | 10 | 40 | 60 | | 4 | **116** | $16,936 | $3,450 | $3,675 | $20,386 |
| 330 | Design Submittal 2 (90 percent) | 2 | 8 | 20 | 80 | | 4 | **114** | $15,824 | $3,370 | $5,250 | $19,194 |
| 340 | Design Submittal 3 - (Final) | 2 | 6 | 12 | 40 | | 4 | **64** | $9,096 | $1,780 | $3,150 | $10,876 |
| 350 | Cost Estimates | 1 | 4 | 8 | | | | **13** | $2,448 | $200 | | $2,648 |
| 360 | QA/QC | 8 | | | | | | **8** | $1,984 | $160 | | $2,144 |
| 370 | Bid Period Services | 4 | 8 | 8 | | | 4 | **24** | $4,436 | $350 | $525 | $4,786 |
| | **TOTALS** | **27** | **52** | **88** | **180** | **0** | **16** | **363** | **$56,484** | **$9,770** | **$12,600** | **$66,254** |

| | ***Task 400 - Construction Phase*** | **PM2** | **PM1** | **ENG2** | **CAD2** | **CAD1** | **ADMIN** | **TMH** | **Labor** | **ODC** | **Sub** | **Total** |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 410 | Project Meetings | 8 | 40 | | | | | **48** | $11,424 | $910 | | $12,334 |
| 420 | Shop Drawing Review | 2 | 8 | 30 | 4 | | | **44** | $7,594 | $1,660 | $2,625 | $9,254 |
| 430 | Start Up Assistance | 2 | 40 | 24 | | | | **66** | $13,704 | $2,100 | $2,625 | $15,804 |
| 440 | O&M Manual Update | 2 | 6 | 24 | 4 | | 8 | **44** | $6,780 | $1,065 | | $7,845 |
| 450 | Operator Training | 2 | 6 | 16 | | | | **24** | $4,424 | $350 | | $4,774 |
| 460 | Record Drawings | 1 | 2 | 4 | 8 | | 4 | **19** | $2,648 | $210 | | $2,858 |
| | **TOTALS** | **17** | **102** | **98** | **16** | **0** | **12** | **245** | **$46,574** | **$6,295** | **$5,250** | **$52,869** |

| **Labor** | **ODC** | **Sub** | **Total** |
|---|---|---|---|
| $139,758 | $18,995 | $30,450 | $158,753 |

# Mehdi Mardi, PE

## Senior Electrical Engineer

**Qualified:** B.S. Electrical Engineering (Control & Power), Tehran Sharif University, IRAN February 1991; B.S. Applied Physics, Ferdowsi University, IRAN November 1988

**Registrations:** CA#C20033

**Professional Summary:** Mehdi is a Professional electrical engineer with over 20 years of experience in the Electrical, Instrumentation and Control (I&C) fields in various type of industry like as Water and Waste Water, Oil & Gas, Petrochemical, Cryogenic and Industrial Gases. Mehdi has been involved in Electrical and I&C design, construction and commissioning on various projects including pump stations, desalination and water and wastewater treatment plants, Industrial Gas production, Hydro Power Generation, Land Field Gas, Oil and Gas field projects. He has experience in Medium and low voltage motor controls and distribution, as well as instrumentation design.

**Electrical Project Engineer**
**Rialto Bioenergy Facility | Rialto, CA**
This project scope of project is to act as the client engineer for Design-Built the facility, project electrical design involve 5MV power generation(CHP) , 400KW battery bank, 12KV design and 480VAC distribution, title 24 , Migrogrid controlling and Etap model study with Electrical hazard, Arc-Flash Hazard Analysis. The project involves process facility and Administration Building section design. The project is under construction and expecting commissioning by 2020.

**Electrical Project Engineer**
**Ground Water Recovery Improvement Program | Water Replenishment District | Pico Rivera, CA**
The scope of project at this job site is to be the client's engineer for a Design-Build project. Review of the drawings and specifications during the design period, and during the construction to review contractor submittals for conformance with drawings and specifications and respond to RFIs and site visit are part of weekly task. The project involved process building and Administration building plus visitor center. The project is in construction now and it is due to be commissioned in 2020.

**Electrical Project Engineer**
**Anaheim – Lenain Water Treatment Plant | Anaheim, CA**
This scope of project at this job site is to improve the plant reliability and water quality, increase the capacity and regulatory compliance. The electrical and instrumentation scope of work is detailed design and engineering related to replacement of the portable generator with a stationary generator, modify the existing switchboard and adding ATS, enhance the area lighting, HVAC and CCTV. Replacing some control panels and control valves and instruments, and integration into SCADA system. It also involves Modification of Administration building provide new lighting design and upgrading the fire alarm system. The project is under construction and is expecting to be commissioned by end of 2019.

**Project Manager**
**Ojai Water System Arc Flash Study |Casitas Municipal District | Ojai, CA**
This project scope of work was to provide the Electrical hazard, Arc-Flash Hazard Analysis, providing single line diagram, labels and short circuit study for 9 job sites for Ojai Casitas Water District. It involved job site investigation and evaluation of existing electrical. Complete report was provided with list of deficiency in design and recommendation to address them. The project was completed in early 2019.

**Electrical Project Engineer**
**Philadelphia Force Main Improvement | IEUA | San Bernardino, CA**
This project scope of work is to modify the existing lift station and add VFD to the third pump and prepare the electrical and instrumentation packages. Make recommendations for improving the electrical design and operation.

**Electrical Engineer**
**Upgrading the Fire Monitors and Control System in Sail Room | San Diego Convention Center | San Diego, CA**
This project scope of work was detailed design and engineering related to replacement of the Old hydraulic operating Fire monitors with new Electric control Monitors supplied by Elkhart Brass. Also installing New Aspiration Smoke detection (ASD) system, Protectowire Heat detection and installation of New Siemens XLS control panel. Coordination of design with San Diego Fire department and city of San Diego was part of the Engineering task.

**Mehdi Mardi**

**Electrical Engineer**
**Land Fill Gas Recovery system Phase V | Stanton Energy Center | Orlando, FL**
This project scope of work was detailed design and engineering related to phase V of increasing the capacity of Gas Recovery and addition of New Gas Compressors. The Electrical and instrumentation Design was to prepare all Detailed Electrical Drawing plus Automation and PLC panels, it included single line diagrams, plot plans, Hazardous area Classification, Lighting plan, and Lighting plan. Updating the Etap Model and preparing Short circuit study Report and the Arc Flash label was part of Scope of work.

**Electrical Engineer**
**Ground Water Remediation system | P66- Wilmington Refinery | Long Beach, CA**
This project scope of work was detailed Electrical and control design and engineering related to drilling of Ten New Ground Water wells around Wilmington Refinery. Scope of work include preparing detailed Electrical and Control drawing package, including Hazardous Area Classification, Emergency shut down panel, preparing IFC and inquiring city permit.

**Electrical Engineer**
**New Filter and Bag House |Gerdau Steel Mill | Rancho Cucamonga, CA**
This project scope of work was to help SMS S.P.A (Italian Engineering/Contractor) in preparing the Electrical design and make it in compliance with local, National Codes, and inquiring city permit. The electrical package include the plot plans, MV and LV Single line diagram and MV & LV switchgears, Hazardous Area Classification, Cable and conduit Routing and Schedule and details.

**Electrical Engineer**
**Additional Desalination System | Southern California Edison- Pebbly Beach | Catalina Island, CA**
This project was increasing the capacity of existing water treatment units and addition a Desalination unit to the existing units. The scope of work was detailed Electrical and control design and engineering related to installation of new GE RO unit, installing new Transformer and metering unit, New MCC and PLC Panel. Construction support, start up and commissioning was added to the scope of work later.

**Electrical Engineer**
**Oil Transfer Pump | CRC- Freeman and Chaffee Island | Long Beach, CA**
This project was increasing the capacity of existing Oil Transfer Pump from Freeman and Chaffee Island by replacing the existing Oil Transfer Pump with larger Pumps. The scope of work was detailed Electrical and control design and engineering related to installation of new OTP pumps. It required adding new Switchboard, MCC and VFDs. Updating the Etap Model and preparing Short circuit study Report and the Arc Flash labels were part of Scope of work. After completion of the design, Construction support, start up and commissioning were added to the scope of work.

**Electrical Engineer**
**Hose Room | P66- Lube Oil | Los Angeles, CA**
This project involved Modifying all the piping in Hose Room, adding new metering skid and adding new pumps to each product Tank. Scope of work was detailed Electrical and control design and engineering related to installation of new pumps, modifying MCCs, preparing the conduit routing and cable and conduit schedules, preparing the I/O list and control panels. Updating the Etap Model and preparing Short circuit study Report and the Arc Flash label was part of Scope of work.

**Electrical Engineer**
**Vapor Recovery Booster Compressor | CRC- Freeman Island | Long Beach, CA**
This project was increasing Efficiency of Vapory Recovery system by adding a Booster compressor to Existing Vapor Recovery System. The scope of work was detailed Electrical and control design and engineering related to installation of new Booster Compressors. It required adding new feeders to existing MCC and Modifying the PLC panels.

**Electrical Engineer**
**Upgrading the Oil Field Power Distribution Switchyard | CHEVRON | Bakersfield, CA**
This project was improving the quality of the existing Power distribution switchyard by replacing the 115KV Disconnect switches with no protection with ABB Circuit breaker and providing the Protection relays for these feeders by SEL. The scope of work was detailed Electrical and control design and engineering related to installation of these two new ABB low oil Circuit Breakers and SEL feeder protection Relay and protection Relays. It was also included Commissioning and Startup of the Switchyard after installation.

## Other related areas of interest

**Recognized (Certifications/Trainings)**

- Control and instrumentation, PETKIM Petrochemical Co., Izmir/ Turkey
- Supply chain Management course (by APICS) at Gaiser tool Company, Ventura/ CA
- Intermediate/Advance programming of Automation Direct PLC, Irvine/ CA

Yucaipa Valley Water District

# Director Memorandum 20-074

**Date:** May 12, 2020

**Prepared By:** Kathryn Hallberg, Implementation Manager

**Subject:** Consideration of a Proposed Environmental Liability Insurance Policy

**Recommendation:** That the Board authorize the General Manager to execute the necessary documents for environmental liability insurance policy coverage from Alliant for the amount not to exceed $42,805.

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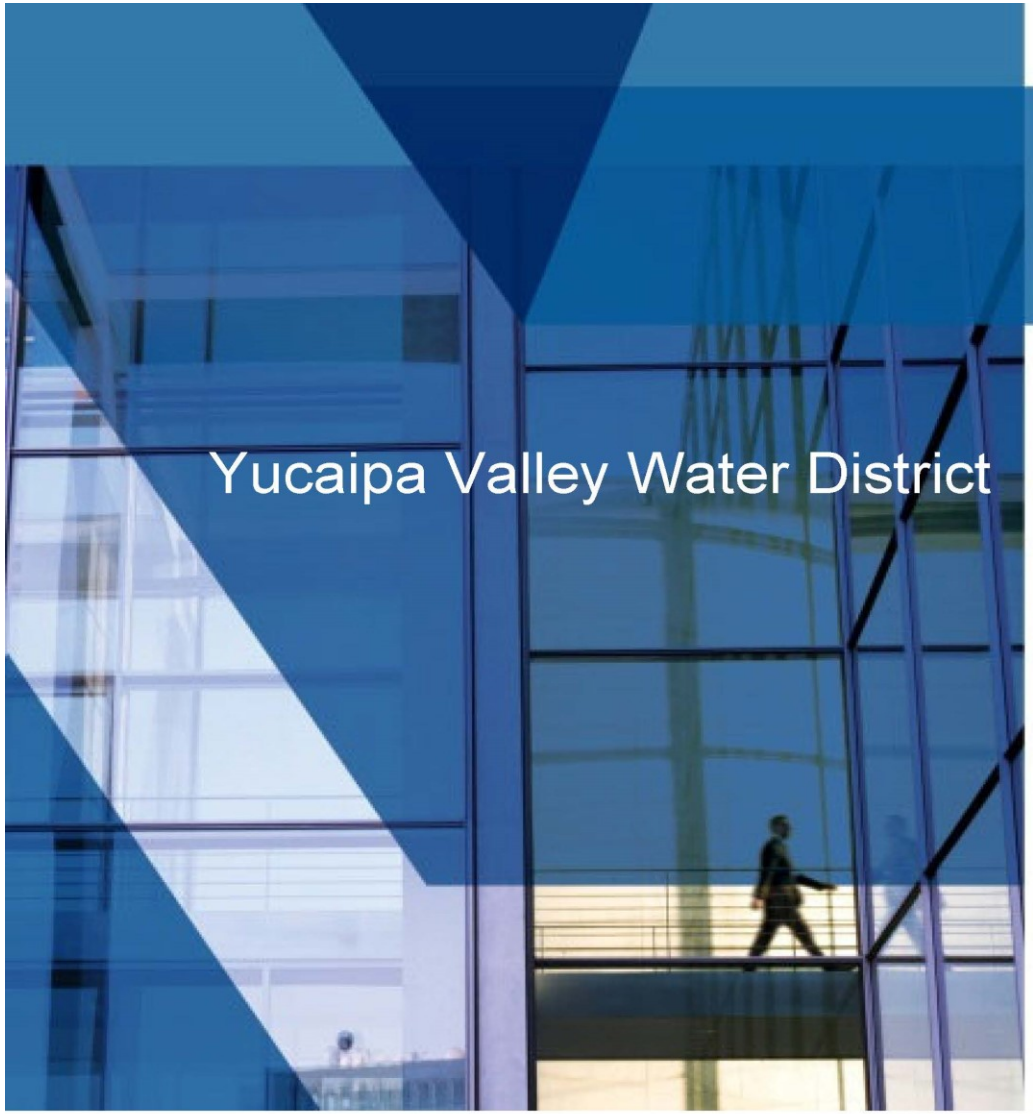
The District has reviewed the quotes for environmental liability insurance to specifically provide coverage for 232 miles of sewer pipelines, 6 lift stations, and 19 miles of brineline.

The proposed environmental liability insurance would include coverage for:

- Clean up of Affected Sites;
- Emergency Response;
- Environmental Crisis;
- Insured Location;
- Non-Owned Site;
- Transportation;
- Covered Operation;
- Defense, Supplementary Payments and Settlement, and
- Terrorism - Optional

The District recommends coverage for $3,000,000 per incident with terrorism coverage for a total premium in the amount of $42,804.87.

**Financial Consideration:** This expense is included in the annual budget and will be paid from the Sewer Fund [GL Account #03-5-06-56001].



# Yucaipa Valley Water District

## Environmental Legal Liability Insurance Proposal
2020 – 2021

Presented on May 6, 2020 by:

Seth Cole, ARM
Senior Vice President

Alliant Insurance Services, Inc.
100 Pine Street, 11th Floor
San Francisco, CA 94111
O 415 403 1400
F 415 874 4813

CA License No. 0C36861

www.alliant.com

## Table of Contents

## Company Profile

With a history dating back to 1925, Alliant Insurance Services is one of the nation's leading distributors of diversified insurance products and services. Operating through a national network of offices, Alliant offers a comprehensive portfolio of services to clients, including:

- Risk Solutions
- Employee Benefits
  - Strategy
  - Employee Engagement
  - Procurement
  - Analytics
  - Wellness
  - Compliance
  - Benefits Administration
  - Global Workforce
- Industry Solutions
  - Construction
  - Energy and Marine
  - Healthcare
  - Law Firms
  - Public Entity
  - Real Estate
  - Tribal Nations
  - And many other industries
- Co-Brokered Solutions
  - Automotive Specialty
  - Energy Alliance Program
  - Hospital All Risk Property Program
  - Law Firms
  - Parking/Valet
  - Public Entity Property Insurance Program
  - Restaurants/Lodging
  - Tribal Nations
  - Waste Haulers/Recycling
- Business Services
  - Risk Control Consulting
  - Human Resources Consulting
  - Property Valuation

The knowledge that Alliant has gained in its more than eight decades of working with many of the top insurance companies in the world allows us to provide our clients with the guidance and high-quality performance they deserve. Our solution-focused commitment to meeting the unique needs of our clients assures the delivery of the most innovative insurance products, services, and thinking in the industry.

Alliant ranks among the 15 largest insurance brokerage firms in the United States

## Alliant Advantage

| | Alliant | Competition |
|---|---|---|
| 1. Satisfying the insurance needs of business for nearly 90 years. | ✓ | |
| 2. Privately owned and operated. | ✓ | |
| 3. A full-service insurance agency for all your business, life and health, and personal insurance. | ✓ | |
| 4. Representing over 40 insurance companies to provide the best and most affordable coverage. | ✓ | |
| 5. State-licensed support staff. | ✓ | |
| 6. Dedicated Certificate of Insurance personnel. | ✓ | |
| 7. Risk management services to help identify hazards and present options. | ✓ | |
| 8. Workers' compensation insurance claims management at no additional charge. | ✓ | |

## Your Service Team

**Seth Cole, ARM**
Senior Vice President
scole@alliant.com
Phone: 415 403 1419
Cell: 925 628 8216
Fax: 415 402 0773

**Thary Ou, CLIC**
Assistant Account Manager
tou@alliant.com
Phone: 415 403 1433
Fax: 415 874 4813

# Named Insured / Additional Named Insureds

**Named Insured(s)**
Yucaipa Valley Water District

**Additional Named Insured(s)**
None

**NAMED INSURED DISCLOSURE**

- The first named insured is granted certain rights and responsibilities that do not apply to other policy named insureds and is designated to act on behalf of all insureds for making policy changes, receiving correspondence, distributing claim proceeds, and making premium payments.
- **Are ALL entities listed as named insureds?** Coverage is **not** automatically afforded to all entities unless specifically named. Confirm with your producer and service team that all entities to be protected are on the correct policy. Not all entities may be listed on all policies based on coverage line.
- Additional named insured is (1) A person or organization, other than the first named insured, identified as an insured in the policy declarations or an addendum to the policy declarations. (2) A person or organization added to a policy after the policy is written with the status of named insured. This entity would have the same rights and responsibilities as an entity named as an insured in the policy declarations (other than those rights and responsibilities reserved to the first named insured).
- Applies to Professional Liability, Pollution Liability, Directors & Officers Liability, Employment Practices Liability, Fiduciary Liability policies (this list not all inclusive). Check your Policy language for applicability. These policies provide protection to the Named Insured for claims made against it alleging a covered wrongful act. Coverage is not afforded to any other entities (unless specifically added by endorsement or if qualified as a "Subsidiary" pursuant to the policy wording) affiliated by common individual insured ownership or to which indemnification is otherwise contractually owed. If coverage is desired for affiliated entities or for contractual indemnities owed, please contact your Alliant Service Team with a full list of entities for which coverage is requested. With each request, include complete financials and ownership information for submission to the carrier. It should be noted, that the underwriter's acceptance of any proposed amendments to the policy, including expansion of the scope of "Insureds" under the policy could result in a potential diminution of the applicable limits of liability and/or an additional premium charge.

## Line of Coverage

### Environmental Legal Liability Coverage

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| **INSURANCE COMPANY:** | Aspen Specialty Insurance Company | Aspen Specialty Insurance Company | Navigators Specialty Insurance Company |
| **A.M. BEST RATING:** | A (Excellent),<br>Financial Size Category: XV<br>($2 Billion or greater)<br>as of November 11, 2016 | A (Excellent),<br>Financial Size Category: XV<br>($2 Billion or greater)<br>as of April 1, 2020 | A+ (Superior),<br>Financial Size Category: XI<br>($750 Million to $1 Billion)<br>as of August 30, 2019 |
| **STANDARD & POOR'S RATING:** | Not Rated | Not Rated | A (Strong) as of August 28, 2019 |
| **CALIFORNIA STATUS:** | Non-Admitted | Non-Admitted | Non-Admitted |
| **POLICY/COVERAGE TERM:** | May 21, 2019 to May 21, 2020 | May 21, 2020 to May 21, 2021 | May 21, 2020 to May 21, 2021 |
| **Coverage Form:** | Environmental Legal Liability - ASPENV110 0617 – Claims Made and Reported | Environmental Legal Liability Policy - ASPENV110 0617 – Claims Made and Reported | Environmental Site Pollution Liability Toolkit II - NAV ESP TLKT II (05/19) – Claims Made and Reported |
| **Retro Active Date:** | May 21, 2018 | May 21, 2018 | May 21, 2018 |
| **Limits:** | $ 3,000,000 Policy Aggregate Limit<br>$ 3,000,000 Insuring Agreement A – Per Incident Limit<br>$ 3,000,000 Insuring Agreement B – Defense, Supplementary Payments and Settlement – Per Incident Limit | $ 3,000,000 Policy Aggregate Limit<br>$ 3,000,000 Insuring Agreement A – Per Incident Limit<br>$ 3,000,000 Insuring Agreement B – Defense, Supplementary Payments and Settlement – Per Incident Limit | $ 3,000,000 Policy Aggregate Limit<br>$ 3,000,000 Coverage A - Pollution Liability for Your Insured Sites - Each Occurrence / Aggregate<br>$ 3,000,000 Coverage B - Pollution Liability for Your Off-Site Activities – Each Occurrence / Aggregate |

## Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| **Limits - Continued:** | $ 250,000 Environmental Crisis - Per Incident Limit - Shall not erode the aggregate limit of liability | $ 250,000 Environmental Crisis - Per Incident Limit - Shall not erode the aggregate limit of liability | $ 250,000 Environmental Crisis Management Sublimit<br>$ 250,000 Supplemental Claim Expense Limit<br>$ 50,000 Fungus Sublimit |
| **Deductible:** | $ 25,000 Per Incident | $ 25,000 Per Incident | $ 10,000 |
| **Defense Inside/Outside the Limit:** | Inside the Limit | Inside the Limit | Inside the Limit (After Supplemental Claim Expense Limit is Exhausted) |
| **Who has the Duty to Defend:** | Insurer | Insurer | Insurer |
| **Policy Form Exclusions:** (including but not limited to) | • Contractual Liability<br>• Criminal Fines, Penalties and Assessments<br>• Damage to Insured's Work<br>• Divested Properties<br>• Employment Liability<br>• Identified Underground Storage Tanks<br>• Installed Asbestos and Lead- Based Paint<br>• Insured's Products | • Contractual Liability<br>• Criminal Fines, Penalties and Assessments<br>• Damage to Insured's Work<br>• Divested Properties<br>• Employment Liability<br>• Identified Underground Storage Tanks<br>• Installed Asbestos and Lead- Based Paint<br>• Insured's Products | • Asbestos and Lead<br>• Material Change in Use<br>• Pollution Incidents After an Insured Site is Divested<br>• Underground Storage Tank Systems<br>• Non-Owned Locations<br>• Products<br>• Professional Liability<br>• Property Damage To Your Products<br>• Property Damage to Your Work |

## Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| **Policy Form Exclusions - Continued:** (including but not limited to) | • Insured Versus Insured<br>• Intentional Non-Compliance<br>• Internal Expenses<br>• Prior Knowledge/ Non-Disclosure<br>• War<br>• Workers' Compensation and Similar Laws | • Insured Versus Insured<br>• Intentional Non-Compliance<br>• Internal Expenses<br>• Prior Knowledge/ Non-Disclosure<br>• War<br>• Workers' Compensation and Similar Laws | • Separately Insured Project<br>• Communicable Diseases<br>• Contractual Liability<br>• Criminal Fines, Penalties or Assessments<br>• Employer's Liability<br>• Hostile Acts / War<br>• Insured Versus Insured<br>• Intentional Acts<br>• Nuclear Liability<br>• Undisclosed Pollution Incidents<br>• Workers' Compensation and Similar Laws |
| **Endorsements:** (including but not limited to) | • California Surplus Lines Notice<br>• Cap On Losses From Certified Acts Of Terrorism<br>• Insured Location ( s ) Schedule Endorsement<br>• Microbial Matter and Legionella Pneumophila Exclusion Endorsement<br>• Minimum Earned Premium Endorsement 100 % At Inception<br>• Nuclear, Biological, Chemical, or Radiological Terrorism Exclusion | • California Notice (D-2)<br>• Cap On Losses From Certified Acts Of Terrorism (If Elected)<br>• Insured Location ( s ) Schedule Endorsement<br>• Microbial Matter and Legionella Pneumophila Exclusion Endorsement<br>• Minimum Earned Premium Endorsement 100 % At Inception<br>• Nuclear, Biological, Chemical, or Radiological Terrorism Exclusion | • NAV ENV Policy Jacket (Non NY)<br>• Emergency Response Policy Holder Notice<br>• OFAC Endorsement<br>• California Complaint Notice<br>• Notice of Claim Form<br>• Coverage Amendatory Endorsement<br>- Provides various exclusions specific to this class of business<br>- Provides giveback for Pollution Incidents from Off-Site Migration of Odors |
| **Endorsements - Continued:** | | | |

## Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| (including but not limited to) | • Retroactive Date / Specific Coverage Endorsement<br>• Schedule of Crisis Management Firms Endorsement<br>• Self Insured Retention Endorsement ( Operation Specific)<br>• Aspen Environmental Emergency Response Hotline<br>• Signature Page | • Retroactive Date / Specific Coverage Endorsement<br>• Schedule of Crisis Management Firms Endorsement<br>• Self-Insured Retention Endorsement (Operation Specific) - $50K Self-insured retention for gravity lines / force main.<br>• Aspen Environmental Emergency Response Hotline<br>• Exclusion of Certified Acts of Terrorism (If Rejected)<br>• Total Terrorism Exclusion (If Rejected) | - See Endorsement for details<br>• Other Insurance Amendatory Endorsement<br>- This coverage is primary except it is excess over the insured insured's WaterPlus Package, Auto, and Excess Policies<br>-See Endorsement for details<br>• Schedule of Insured Contract Endorsement<br>- Provides blanket scheduling of any written agreement or lease agreement regarding an insured site<br>- See Endorsement for details<br>• Insured Site Amendatory Endorsement<br>- Provides Broad Insured Status for Owned Sites<br>- Insured Site means all sites on the statement of values and all associated infrastructure piping; water, pump stations; potable water wells or potable water tank locations<br>- Provides rules for coverage of sites acquired mid-term, whether leased or owned<br>- See Endorsement for details |
| **Endorsements - Continued:** | | | |

## Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| (including but not limited to) | | | • Coverage(s) A & B Fungus/Legionella Sublimits Endorsement NENV 9220 (02/20) - $50K sublimit is scheduled.<br>• Absolute Perfluoroalkyl Substances, Polyfluoroalkyl Substances (PFOA, PFAS, GENX) And Aqueous Film-Forming Foam Exclusion Endorsement - See Endorsement for details<br>• Environmental Crisis Management Endorsement $250,000 sublimit is scheduled.<br>• Full Terrorism Exclusion (Including Certified Act of Terrorism) Endorsement<br>• Full Terrorism Exclusion (Including Certified Act of Terrorism) Endorsement<br>• Add new Subjectivity for TRIA Terrorism |

## Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| **Total Cost Excluding TRIA:** | Not Applicable | $ 40,250.00 Policy Premium<br>$ 1,207.5 SL Tax (3%)<br>$ 100.63 Stamping Fee (0.25%)<br>**$ 41,558.13 Total Cost** | $ 31,810.00 Policy Premium<br>$ 3,181.00 Provider Fee<br>$ 1,049.73 SL Tax (3%)<br>$ 87.48 Stamping Fee (0.25%)<br>$ 250.00 Policy Fee<br>**$ 36,378.21 Total Cost** |
| **Total Cost Including TRIA:** | $ 38,000.00 Policy Premium<br>$ 1,140.00 TRIA Premium<br>$ 1,174.20 SL Tax (3%)<br>$ 78.28 Stamping Fee (0.2%)<br>**$ 40,392.48 Total Cost** | $ 40,250.00 Policy Premium<br>$ 1,207.5 Terrorism Premium<br>$ 1,243.73 SL Tax (3%)<br>$ 103.64 Stamping Fee (0.25%)<br>**$ 42,804.87 Total Cost** | $ 31,810.00 Policy Premium<br>$ 954.30 TRIA Premium<br>$ 3,181.00 Provider Fee<br>$ 1,078.36 SL Tax (3%)<br>$ 89.86 Stamping Fee (0.25%)<br>$ 250.00 Policy Fee<br>**$ 37,363.52 Total Cost** |
| **Minimum Earned Premium:** | 100% at Inception | 100% at Inception | 25% |
| **Policy Auditable:** | Not Auditable | Not Auditable | Yes |
| **Quote Valid Until:** | No Longer Applicable | May 21, 2020 | May 21, 2020 |
| **Binding Conditions:** | No Longer Applicable | • A written request to bind coverage<br>• All Surplus Lines Taxes/Fees are Fully Earned<br>• Signed Terrorism selection/rejection form. | • A written request to bind coverage<br>• All Surplus Lines Taxes/Fees are Fully Earned<br>• Completion of an environmental phone survey that will include questions about hazardous |

Environmental Legal Liability Coverage - Continued

| | Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|---|
| **Binding Conditions - Continued:** | | | materials management, water treatment, odor control (required for off-site odor coverage to apply), main breaks, excavated soil management, spill management and other info to document our underwriting file. Please provide a contact name, email address and phone number as soon as possible so this can be scheduled. This is required within 30 days.<br>• If electing to Purchase TRIA Terrorism coverage please provide either: (1) written instructions to bind. TRIA Terrorism coverage within the Request to bind email to us or (2) return the signed TRIA. Terrorism Insurance Coverage Notice Form provided within the proposal. – Required at Binding<br>• Completed and signed Navigators Environmental Application or Allied Public Risk Pollution. Supplemental Application. – Required at Binding to remove Endorsement No. 9 Reliance of Another Insurer's Application |

Environmental Legal Liability Coverage - Continued

| Present Coverage - Aspen | Proposed Coverage - Aspen | Proposed Coverage – Navigators |
|---|---|---|
| | | • Copy of currently valued pollution loss runs – Required at Binding. |

**CLAIMS REPORTING NOTICE**
**PLEASE NOTE THAT POLLUTION LIABILITY POLICIES CONTAIN EXTREMELY STRICT CLAIM REPORTING PROCEDURES.**
**Attached please find your policy specific claim reporting requirements – Please make sure you understand these obligations. Contact your Alliant Service Team with any questions.**

**See Disclaimer Page for Important Notices and Acknowledgment**

## Disclosures

**This proposal of insurance is provided as a matter of convenience and information only. All information included in this proposal, including but not limited to personal and real property values, locations, operations, products, data, automobile schedules, financial data and loss experience, is based on facts and representations supplied to Alliant Insurance Services, Inc. by you. This proposal does not reflect any independent study or investigation by Alliant Insurance Services, Inc. or its agents and employees.**

**Please be advised that this proposal is also expressly conditioned on there being no material change in the risk between the date of this proposal and the inception date of the proposed policy (including the occurrence of any claim or notice of circumstances that may give rise to a claim under any policy which the policy being proposed is a renewal or replacement). In the event of such change of risk, the insurer may, at its sole discretion, modify, or withdraw this proposal, whether or not this offer has already been accepted.**

**This proposal is not confirmation of insurance and does not add to, extend, amend, change, or alter any coverage in any actual policy of insurance you may have. All existing policy terms, conditions, exclusions, and limitations apply. For specific information regarding your insurance coverage, please refer to the policy itself. Alliant Insurance Services, Inc. will not be liable for any claims arising from or related to information included in or omitted from this proposal of insurance.**

Alliant embraces a policy of transparency with respect to its compensation from insurance transactions. Details on our compensation policy, including the types of income that Alliant may earn on a placement, are available on our website at www.alliant.com. For a copy of our policy or for any inquiries regarding compensation issues pertaining to your account you may also contact us at: Alliant Insurance Services, Inc., Attention: General Counsel, 701 B Street, 6th Floor, San Diego, CA 92101.

Analyzing insurers' over-all performance and financial strength is a task that requires specialized skills and in-depth technical understanding of all aspects of insurance company finances and operations. Insurance brokerages such as Alliant Insurance typically rely upon rating agencies for this type of market analysis. Both A.M. Best and Standard and Poor's have been industry leaders in this area for many decades, utilizing a combination of quantitative and qualitative analysis of the information available in formulating their ratings.

A.M. Best has an extensive database of nearly 6,000 Life/Health, Property Casualty and International companies. You can visit them at www.ambest.com. For additional information regarding insurer financial strength ratings visit Standard and Poor's website at www.standardandpoors.com.

Our goal is to procure insurance for you with underwriters possessing the financial strength to perform. Alliant does not, however, guarantee the solvency of any underwriters with which insurance or reinsurance is placed and maintains no responsibility for any loss or damage arising from the financial failure or insolvency of any insurer. We encourage you to review the publicly available information collected to enable you to make an informed decision to accept or reject a particular underwriter. To learn more about companies doing business in your state, visit the Department of Insurance website for that state.

## NY Regulation 194

Alliant Insurance Services, Inc. is an insurance producer licensed by the State of New York. Insurance producers are authorized by their license to confer with insurance purchasers about the benefits, terms and conditions of insurance contracts; to offer advice concerning the substantive benefits of particular insurance contracts; to sell insurance; and to obtain insurance for purchasers. The role of the producer in any particular transaction typically involves one or more of these activities.

Compensation will be paid to the producer, based on the insurance contract the producer sells. Depending on the insurer(s) and insurance contract(s) the purchaser selects, compensation will be paid by the insurer(s) selling the insurance contract or by another third party. Such compensation may vary depending on a number of factors, including the insurance contract(s) and the insurer(s) the purchaser selects. In some cases, other factors such as the volume of business a producer provides to an insurer or the profitability of insurance contracts a producer provides to an insurer also may affect compensation.

The insurance purchaser may obtain information about compensation expected to be received by the producer based in whole or in part on the sale of insurance to the purchaser, and (if applicable) compensation expected to be received based in whole or in part on any alternative quotes presented to the purchaser by the producer, by requesting such information from the producer.

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## Other Disclosures / Disclaimers

### FATCA:

The Foreign Account Tax Compliance Act (FATCA) requires the notification of certain financial accounts to the United States Internal Revenue Service. Alliant does not provide tax advice so please contact your tax consultant for your obligation regarding FATCA.

### Claims Reporting:

Your policy will come with specific claim reporting requirements. Please make sure you understand these obligations. Contact your Alliant Service Team with any questions.

### Claims Made Policy:

This claims-made policy contains a requirement stating that this policy applies only to any claim first made against the Insured and reported to the insurer during the policy period or applicable extended reporting period. Claims must be submitted to the insurer during the policy period, or applicable extended reporting period, as required pursuant to the Claims/Loss Notification Clause within the policy in order for coverage to apply. Late reporting or failure to report pursuant to the policy's requirements could result in a disclaimer of coverage by the insurer.

## Other Disclosures / Disclaimers – Continued

### NRRA:

The Non-Admitted and Reinsurance Reform Act (NRRA) went into effect on July 21, 2011. Accordingly, surplus lines tax rates and regulations are subject to change which could result in an increase or decrease of the total surplus lines taxes and/or fees owed on this placement. If a change is required, we will promptly notify you. Any additional taxes and/or fees must be promptly remitted to Alliant Insurance Services, Inc.

### Changes and Developments

It is important that we be advised of any changes in your operations, which may have a bearing on the validity and/or adequacy of your insurance. The types of changes that concern us include, but are not limited to, those listed below:

- Changes in any operations such as expansion to another states, new products, or new applications of existing products.
- Travel to any state not previously disclosed.
- Mergers and/or acquisition of new companies and any change in business ownership, including percentages.
- Any newly assumed contractual liability, granting of indemnities or hold harmless agreements.
- Any changes in existing premises including vacancy, whether temporary or permanent, alterations, demolition, etc. Also, any new premises either purchased, constructed or occupied
- Circumstances which may require an increased liability insurance limit.
- Any changes in fire or theft protection such as the installation of or disconnection of sprinkler systems, burglar alarms, etc. This includes any alterations to the system.
- Immediate notification of any changes to a scheduled of equipment, property, vehicles, electronic data processing, etc.
- Property of yours that is in transit, unless previously discussed and/or currently insured.

## Other Disclosures / Disclaimers – Continued

### Certificates / Evidence of Insurance

A certificate is issued as a matter of information only and confers no rights upon the certificate holder. The certificate does not affirmatively or negatively amend, extend or alter the coverage afforded by a policy. Nor does it constitute a contract between the issuing insurer(s), authorized representative, producer or certificate holder.

You may have signed contracts, leases or other agreements requiring you to provide this evidence. In those agreements, you may assume obligations and/or liability for others (Indemnification, Hold Harmless) and some of the obligations that are not covered by insurance. We recommend that you and your legal counsel review these documents.

In addition to providing a certificate of insurance, you may be required to name your client or customer on your policy as an additional insured. This is only possible with permission of the insurance company, added by endorsement and, in some cases, an additional premium.

By naming the certificate holder as additional insured, there are consequences to your risks and insurance policy including:

- Your policy limits are now shared with other entities; their claims involvement may reduce or exhaust your aggregate limit.
- Your policy may provide higher limits than required by contract; your full limits can be exposed to the additional insured.
- There may be conflicts in defense when your insurer has to defend both you and the additional insured.

***See Request to Bind Coverage page for acknowledgement of all disclaimers and disclosures.***

## Flood Offering

Flooding is a serious threat to both personal and commercial clients. Flooding can happen anywhere, not just zone referred to as high-risk areas (Special Flood Hazard Area). Your Alliant team is ready to explain how it works and the associated costs.

### Basic Facts

Congress created the NFIP in 1968 in response to the rising cost of taxpayer-funded disaster relief for flood victims and the increasing amount of damage caused by floods. The NFIP makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. The NFIP is self-supporting for the average historical loss year. This means that unless there is a widespread disaster, operating expenses and flood insurance claims are financed through premiums collected.

Commercial buildings or residential dwellings owned by commercial entities are considered commercial property. All others are residential dwellings

The FEMA Summary for Commercial Property and FEMA Standard Summary of Coverage provides information on the following:

- Types of Flood Insurance Coverage
- What is a Flood- "a General and temporary condition of partial or complete inundation of two or more acres of normally dry land area"…
- Deductibles – various options to meet your financial needs
- What is Covered and What is Not
- The valuation of the Property – Actual Cash Value or Replacement Cost

### Additional Information

- Flood Zones
  - https://www.fema.gov/flood-zones
- Excess Flood Insurance (contact your Producer for additional information)
  - Increased limits over the maximum flood limit provided by NFIP

### FEMA Glossary of Flood Terms

https://www.fema.gov/national-flood-insurance-program/definitions

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If you do NOT wish to purchase flood insurance your signature is required below:

Signature: _____ Date: _____

Name Printed / Typed: _____

Company Name: _____

## Optional Coverages

The following represents a list of insurance coverages that are not included in this proposal, but are optional and may be available with further underwriting information.

Note some of these coverages may be included with limitations or insured elsewhere. This is a partial listing as you may have additional risks not contemplated here or are unique to your organization.

- Crime / Fidelity Insurance
- Directors & Officers Liability
- Earthquake Insurance
- Employed Lawyers
- Employment Practices Liability
- Event Cancellation
- Fiduciary Liability
- Fireworks Liability
- Flood Insurance
- Foreign Insurance
- Garage Keepers Liability
- Kidnap & Ransom
- Law Enforcement Liability
- Media and Publishers Liability
- Medical Malpractice Liability
- Network Security / Privacy Liability and Internet Media Liability
- Owned/Non-Owned Aircraft
- Owned Watercraft
- Special Events Liability
- Student Accident
- Volunteer Accidental Death & Dismemberment (AD&D)
- Workers' Compensation
- Workplace Violence

## Glossary of Insurance Terms

Below are a couple of links to assist you in understanding the insurance terms you may find within your insurance coverages:

http://insurancecommunityuniversity.com/UniversityResources/InsuranceGlossaryFREE.aspx
http://www.ambest.com/resource/glossary.html
http://www.irmi.com/online/insurance-glossary/default.aspx

## Request to Bind Coverage

Yucaipa Valley Water District

We have reviewed the proposal and agree to the terms and conditions of the coverages presented. We are requesting coverage to be bound as outlined by coverage line below:

| Coverage Line | Bind Coverage for: |
|---|---|
| Environmental Legal Liability | |
| • Aspen Option | ☐ |
| • Navigators Option | ☐ |

*This Authorization to Bind Coverage also acknowledges receipt and review of all disclaimers and disclosures, including exposures used to develop insurance terms, contained within this proposal.*

**Signature of Authorized Insurance Representative** **Date**

**Title**

**Printed / Typed Name**

**This proposal does not constitute a binder of insurance. Binding is subject to the final carrier approval. The actual terms and conditions of the policy will prevail.**

Yucaipa Valley Water District

# Director Memorandum 20-075

**Date:** May 12, 2020

**Prepared By:** Joseph B. Zoba, General Manager

**Subject:** Consideration of Resolution No. 2020-25 Recognizing and Honoring Director Bruce Granlund for his Leadership, Dedication and Service to the Community

**Recommendation:** That the Board adopts Resolution No. 2020-25.

On December 23, 1998, Bruce Granlund was appointed to the Board of Directors to represent customers in Division 2 for the unexpired term of Director Steve Copelan. Director Bruce Granlund continued to represent the constituents in Division 2 until May 13, 2020.

Over the past twenty-one years, Director Bruce Granlund has been an active board member who advocated conservative financial policies and programs with a particular emphasis on continuous communication with District customers.

With the primary goal of improving the District and protecting the best interests of our customers, Director Bruce Granlund consistently provided guidance based on his knowledge, experience, and dedication to the community. More importantly, Director Bruce Granlund always demonstrated an insatiable desire to learn and share issues facing the District with others in the community. These qualities provided the District with an outstanding board member that will certainly be missed.

The Board of Directors has consistently taken steps to do what is right and not what is easy. Under the leadership of Director Bruce Granlund this philosophy was fully embraced as a board member who voted based on his core values, conscience, and heart to do the best for the people he served. It has been a distinct privilege and a pleasure to work together with Director Bruce Granlund.

Therefore, on behalf of the Board of Directors and District staff, I recommend the adoption of Yucaipa Valley Water District Resolution No. 2025-25 as a small token to show our deep-seated appreciation for the service Director Bruce Granlund provided to the District and our customers.

# RESOLUTION NO. 2020-25

# RESOLUTION OF THE BOARD OF DIRECTORS OF THE YUCAIPA VALLEY WATER DISTRICT RECOGNIZING AND HONORING DIRECTOR BRUCE GRANLUND FOR HIS LEADERSHIP, DEDICATION AND SERVICE TO THE COMMUNITY

WHEREAS, Bruce Granlund was appointed to the Board of Directors on December 23, 1998 as the Director representing Division 2 and continued to serve as an elected official until May 13, 2020; and

WHEREAS, Director Bruce Granlund has provided over twenty-one years of service to the community as an elected official and significantly contributed to the progress of the District with his devotion of time, service, sound judgment, and fulfillment of all obligations and responsibilities as a member of this Board of Directors; and

WHEREAS, Director Bruce Granlund has provided exceptional service to the community through his professional business skills, dependability, knowledge, commitment, dedication, and experience; and

WHEREAS, Director Bruce Granlund has always exhibited the characteristics of a true professional, dedicated board member, and friend.

WHEREAS, we, as members of the Yucaipa Valley Water District Board of Directors wish to extend our utmost appreciation for the work, dedication, and service provided by Director Bruce Granlund.

NOW, THEREFORE, BE IT HEREBY RESOLVED AND ORDERED, that on behalf of its staff and the customers of the District, the Board of Directors of the Yucaipa Valley Water District hereby offers our most sincere appreciation and recognition of Director Bruce Granlund for his years of dedicated service and contributions to the community.

ADOPTED this 12th day of May 2020.

_____
President of the Board

ATTEST:

_____
Secretary of the Board

# Board Reports and Comments

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
72 full time employees

**FY 2019-20 Operating Budget:** Water Division - $14,455,500
Sewer Division - $12,217,712
Recycled Water Division - $1,301,447

**Number of Services:** 13,794 drinking water connections serving 19,243 units
14,104 sewer connections serving 22,774 units
111 recycled water connections serving 460 units

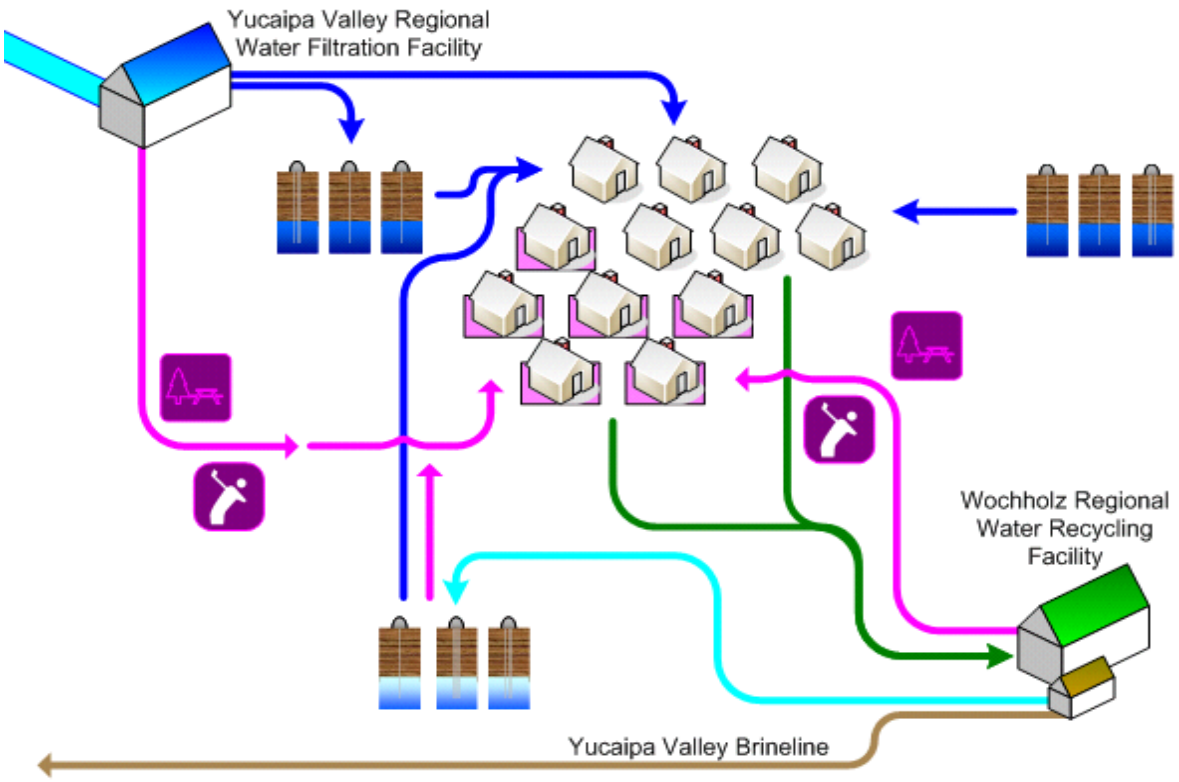
**Water System:** 223 miles of drinking water pipelines
2,033 fire hydrants
27 reservoirs - 34 million gallons of storage capacity
18 pressure zones
2.958 billion gallon annual drinking water demand
Two water filtration facilities:
- 1 mgd at Oak Glen Surface Water Filtration Facility
- 12 mgd at Yucaipa Valley Regional Water Filtration Facility

**Sewer System:** 8.0 million gallon treatment capacity - current flow at 3.5 mgd
213 miles of sewer mainlines
4,504 sewer manholes
5 sewer lift stations
1.27 billion gallons of recycled water produced per year

**Recycled Water:** 22 miles of recycled water pipelines
5 reservoirs - 12 million gallons of storage
0.681 billion gallon annual recycled water demand

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

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




## Typical Rates, Fees and Charges:

- Drinking Water Commodity Charge:

| | |
|---|---|
| 1,000 gallons to 15,000 gallons | $1.429 per each 1,000 gallons |
| 16,000 gallons to 60,000 gallons | $1.919 per each 1,000 gallons |
| 61,000 gallons to 100,000 gallons | $2.099 per each 1,000 gallons |
| 101,000 gallons or more | $2.429 per each 1,000 gallons |

- Recycled Water Commodity Charge:

| | |
|---|---|
| 1,000 gallons or more | $1.425 per each 1,000 gallons |

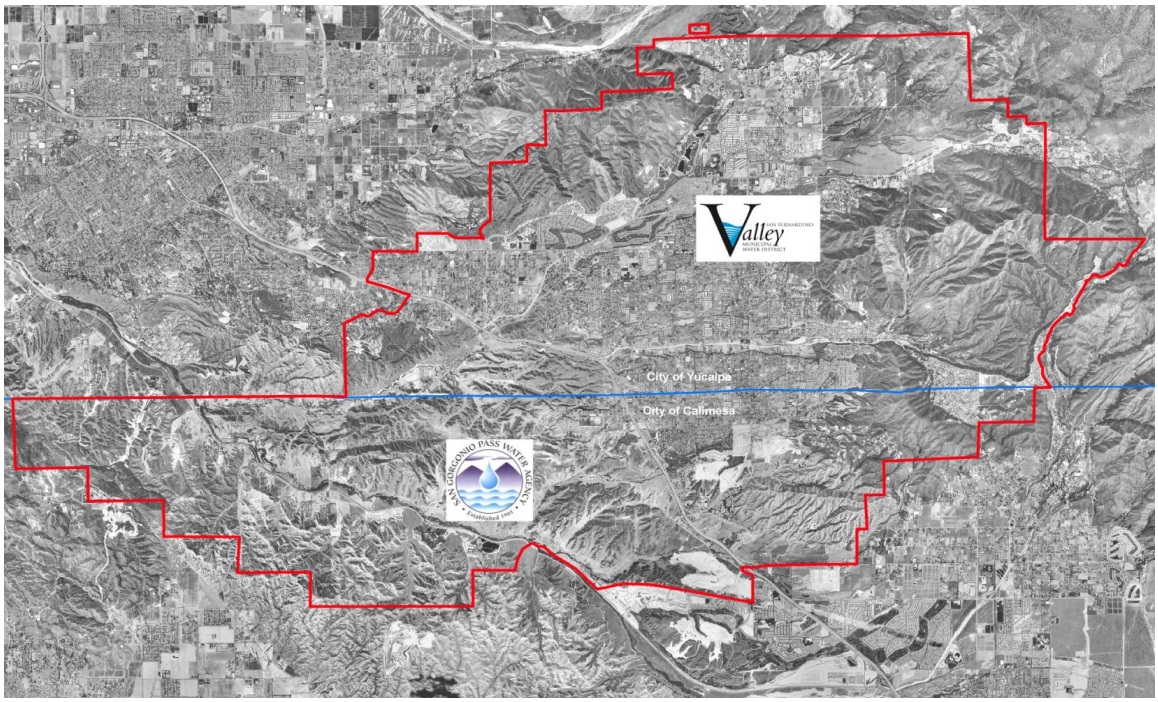
- Water Meter Service Charge (Drinking Water or Recycled Water):

| | |
|---|---|
| 5/8” x 3/4” Water Meter | $14.00 per month |
| 1” Water Meter | $23.38 per month |
| 1-1/2” Water Meter | $46.62 per month |

- Sewer Collection and Treatment Charge:

| | |
|---|---|
| Typical Residential Charge | $42.43 per month |

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




| | San Bernardino Valley Municipal Water District | San Gorgonio Pass Water Agency |
|---|---|---|
| Service Area Size | 353 square miles | 222 square miles |
| Table "A" Water Entitlement | 102,600 acre feet | 17,300 acre feet |
| Imported Water Rate | $125.80 / acre foot | $399 / acre foot |
| Tax Rates for FY 2019-20 | $0.1425 per $100 | $0.1775 per $100 |
| Number of Board Members | Five (5) | Seven (7) |
| Operating Budget FY 2019-20 | $58,372,000 | $9,551,000 |

Imported Water Charges (Pass-through State Water Project Charge)

- San Bernardino Valley Municipal Water District - Customers in San Bernardino County or City of Yucaipa pay a pass-through amount of $0.270 per 1,000 gallons.

- San Gorgonio Pass Water Agency - Customers in Riverside County or City of Calimesa pay a pass-through amount of $0.660 per 1,000 gallons. A proposed rate change to $0.857 per 1,000 gallons is pending future consideration by YVWD.

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 wastewater 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 wastewater treatment process. This high-quality product can be recycled as a soil amendment on farmland or further processed as an earth-like product for commercial and home gardens to improve and maintain fertile soil and stimulate plant growth.

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

**Certificate of Participation (COP)** – A type of financing where an investor purchases a share of the lease revenues of a program rather than the bond being secured by those revenues.

**Coliform Bacteria** - A group of bacteria found in the intestines of humans and other animals, but also occasionally found elsewhere used as indicators of sewage pollution. E. coli are the most common bacteria in wastewater.

**Collections System** - In wastewater, it is the system of typically underground pipes that receive and convey sanitary wastewater or storm water.

**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.

**Contaminants of Potential Concern (CPC)** - Pharmaceuticals, hormones, and other organic wastewater contaminants.

**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.

**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.

**Levels of Service (LOS)** - Goals to support environmental and public expectations for performance.

**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.

**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.

**Santa Ana River Interceptor (SARI) Line** - A regional brine line designed to convey 30 million gallons per day (MGD) of non-reclaimable wastewater from the upper Santa Ana River basin to Orange County Sanitation District for treatment, use and/or disposal.

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

**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 wastewater.

**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.

**South Coast Air Quality Management District (SCAQMD)** - Regional regulatory agency that develops plans and regulations designed to achieve public health standards by reducing emissions from business and industry.

**Special district** - A form of local government created by a local community to meet a specific need. Yucaipa Valley Water District is a County Water District formed pursuant to Section 30000 of the California Water Code

**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.

**Surface Water** - Water found in lakes, streams, rivers, oceans, or reservoirs behind dams. In addition to using groundwater, Yucaipa Valley Water District receives surface water from the Oak Glen area.

**Sustainable Groundwater Management Act (SGMA)** - Pursuant to legislation signed by Governor Jerry Brown in 2014, the Sustainable Groundwater Management Act requires water agencies to manage groundwater extractions to not cause undesirable results from over production.

**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 wastewater as it trickles over them.

**Underground Service Alert (USA)** - A free service (https://www.digalert.org) 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 carry 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.

**Water Pressure** - Water pressure is created by the weight and elevation of water and/or generated by pumps that deliver water to customers.

**Water Service Line** - A water service line is used to deliver water from the Yucaipa Valley Water District's mainline distribution system.

**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.

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

**Water-Wise House Call** - a service which provides a custom evaluation of a customer's indoor and outdoor water use and landscape watering requirements.

**Well** - a hole drilled into the ground to tap an underground aquifer.

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

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 |
| SGMA | Sustainable Groundwater Management Act |
| 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 |