



Consumer Confidence Report

Data for January 1, 2015
through December 31, 2015



OLIVENHAIN
Municipal Water District

An Annual Drinking Water Quality Report
Published June 2016



Municipal Water District

A Public Agency Providing

Water

Wastewater Services

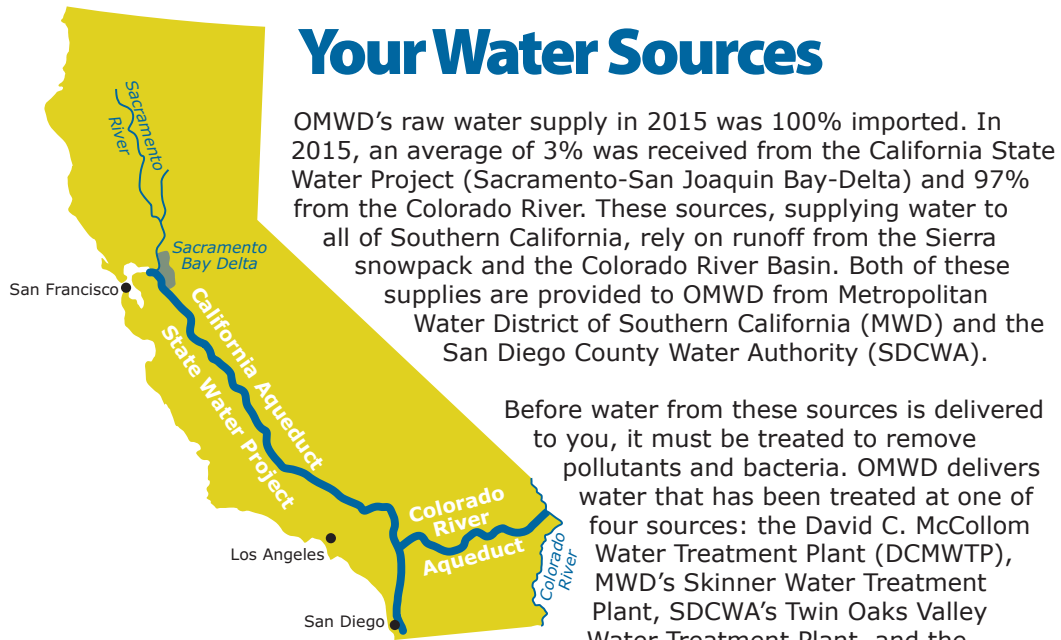
Recycled Water

Hydroelectricity

Elfin Forest Recreational Reserve

Olivenhain Municipal Water District (OMWD) is required by law to distribute a Consumer Confidence Report each year.

This report explains how drinking water provided by OMWD meets or exceeds all state and federal water quality standards for your drinking water. Included within are results of water quality tests, tips on how to interpret the data, and an explanation of where your water comes from. The data presented is for January 1 through December 31, 2015. We are proud to share our results with you.



Your Water Sources

OMWD's raw water supply in 2015 was 100% imported. In 2015, an average of 3% was received from the California State Water Project (Sacramento-San Joaquin Bay-Delta) and 97% from the Colorado River. These sources, supplying water to all of Southern California, rely on runoff from the Sierra snowpack and the Colorado River Basin. Both of these supplies are provided to OMWD from Metropolitan Water District of Southern California (MWD) and the San Diego County Water Authority (SDCWA).

Before water from these sources is delivered to you, it must be treated to remove pollutants and bacteria. OMWD delivers water that has been treated at one of four sources: the David C. McCollom Water Treatment Plant (DCMWTP), MWD's Skinner Water Treatment Plant, SDCWA's Twin Oaks Valley Water Treatment Plant, and the new Claude "Bud" Lewis Carlsbad

Desalination Plant, which came online in December 2015 and treats seawater from the Pacific Ocean.

David C. McCollom Water Treatment Plant

In 2015, over 99% of the water delivered to OMWD customers was treated locally at the DCMWTP. The raw water received at the DCMWTP is a blend of water from the Colorado River and the State Water Project. This raw water is obtained from SDCWA, which purchases it from MWD.

The DCMWTP is located within the northeastern portion of OMWD's service area and uses membrane technology to produce superior quality finished water. Fewer chemicals are used in this treatment process than in conventional treatment, and the membrane process offers improved barriers against pathogens, such as *Cryptosporidium*, and bacteria, such as

coliform. OMWD provides tours of the DCMWTP throughout the year; contact Brian Sodeman for details at **760-632-4641** or bsodeman@olivenhain.com.

Skinner, Twin Oaks Valley, and Carlsbad Desalination Plants

The remaining <1% of the treated water delivered to OMWD customers in 2015 was obtained from SDCWA. In addition to treating water locally at SDCWA's Twin Oaks Valley WTP in San Marcos and the Carlsbad Desalination Plant in Carlsbad, SDCWA purchases treated water from MWD that is treated at the Skinner WTP in southwestern Riverside County. Like water treated at the DCMWTP, water treated by the Twin Oaks and Skinner plants is also a blend from the Colorado River and the State Water Project.



David C. McCollom Water Treatment Plant

What Is in My Water?

There are two tables on the following pages. The first table shows how water treated at Skinner, Twin Oaks Valley, Carlsbad Desalination Plant, and the DCMWTP met health-related standards in 2015. A separate table is provided that includes data specific to the water that flows through OMWD's distribution system. For information on the Lake Skinner source water and a source water assessment, please contact Mic Stewart with MWD at **213-217-5696** or mstewart@mwdh2o.com. For more information on the Twin Oaks Valley WTP or the Carlsbad Desalination Plant, please contact Chris Castaing with SDCWA at **760-233-3279** or ccastaing@sdcwa.org. For more information on the DCMWTP or OMWD's distribution system, please contact David Smith at **760-415-2304** or dsmith@olivenhain.com.

How Do Contaminants Get in the Water?

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- **Microbial contaminants**, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife
- **Inorganic contaminants**, such as salts and metals, that can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming
- **Pesticides and herbicides**, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses
- **Organic chemical contaminants**, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems
- **Radioactive contaminants**, which can be naturally occurring or be the result of oil and gas production and mining activities

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California State Water Resources Control

Board (SWRCB) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. SWRCB regulations also establish limits for contaminants in bottled water that provide similar protection for public health.

What About Lead and Copper?

There has been considerable attention regarding the lead levels found in the drinking water supply serving consumers living and working in the Flint, Michigan area. OMWD is required to test every three years for lead and copper. OMWD tested for lead and copper in 2013; 30 locations were sampled, the results, which were well below regulatory action levels, are provided in the table on page 5. Additional information about lead and copper is available at www.olivenhain.com/leadandcopper and from the USEPA Safe Drinking Water Hotline, **800-426-4791**.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. OMWD is responsible for providing high-quality drinking water, but cannot control the variety of materials used in home plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <http://www.epa.gov/safewater/lead>.

Important Health Information



Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the USEPA's Safe Drinking Water Hotline, **800-426-4791**.

The trace contaminants found in OMWD's water sources, along with their standards, are listed in the tables found in this report. It is important to note that drinking water standards are based on research to protect the general public and may not be sufficient to protect certain persons, as noted below.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, as well as some elderly and infants can be particularly at risk for infections. These people should seek advice about drinking water from their health care providers. USEPA/Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the USEPA's Safe Drinking Water Hotline, **800-426-4791**.

Water Treatment Plant Data

PERCENT STATE PROJECT WATER
Skinner, Twin Oaks Valley and David C. McCollom WTPs
 Range = 0%-6% Average = 3%

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	Skinner WTP		Twin Oaks Valley WTP		Carlsbad DP		David C. McCollom WTP		Major Sources in Drinking Water
					Range	Average	Range	Average	Range	Average	Range	Average	
PRIMARY STANDARDS – Mandatory Health-Related Standards													
CLARITY													
Combined Filter Effluent Turbidity ^(a)	NTU %	TT = 1 TT	NA	NA	Highest 0.10	% ≤ 0.3 100	Highest 0.02	% ≤ 0.1 100	Highest 0.04	% ≤ 0.1 100	Highest 0.09	% ≤ 0.1 100	Soil runoff
MICROBIOLOGICAL													
Total Coliform Bacteria ^(b)	%	5.0	(0)	NA	ND-0.2	ND	ND	ND	ND	ND	ND	ND	Naturally present in the environment
<i>E. coli</i>	^(c)	^(c)	(0)	NA	ND	ND	ND	ND	ND	ND	ND	ND	Human and animal fecal waste
Heterotrophic Plate Count (HPC) ^(d)	CFU/mL	TT	NA	NA	TT	TT	TT	TT	NA	NA	TT	TT	Naturally present in the environment
<i>Cryptosporidium</i>	oocysts/200 L	TT	(0)	NA	ND	ND	ND	ND	TT	TT	ND	ND	Human and animal fecal waste
<i>Giardia</i>	cysts/200 L	TT	(0)	NA	ND	ND	ND	ND	TT	TT	ND	ND	Human and animal fecal waste
SEMI-VOLATILE ORGANIC COMPOUNDS													
Acrylamide	NA	TT	(0)	NA	TT	TT	TT	TT	ND	ND	TT	TT	Water treatment chemical impurities
Epichlorohydrin	NA	TT	(0)	NA	TT	TT	NA	NA	ND	ND	NA	NA	Water treatment chemical impurities
VOLATILE ORGANIC COMPOUNDS													
Dichloromethane (Methylene Chloride)	ppb	5	4	0.5	ND	ND	ND-0.5	ND	ND	ND	NRA	ND	Discharge from pharmaceutical and chemical factories
INORGANIC CHEMICALS													
Arsenic	ppb	10	0.004	2	ND	ND	NRA	3.0	ND	ND	NRA	3.0	Erosion of natural deposits; glass and electronics production wastes
Barium	ppb	1,000	2,000	100	124	124	NRA	120	ND	ND	NRA	120	Oil and metal refineries discharge; erosion of natural deposits
Fluoride ^(e) (treatment-related)	ppm	2.0	1	0.1	0.5-0.9	0.7	0.6-1.0	0.8	0.5-1.0	0.8	0.52-0.94	0.75	Erosion of natural deposits; water additive that promotes strong teeth
Nitrate (as Nitrogen)	ppm	10	10	0.4	ND	ND	ND-0.3	ND	0.7-0.9	0.8	NRA	ND	Runoff and leaching from fertilizer use; septic tank and sewage; erosion of natural deposits
RADIOLOGICALS													
Gross Alpha Particle Activity	pCi/L	15	(0)	3	ND-5	ND	NRA	ND	ND	ND	NRA	4.8	Erosion of natural deposits
Gross Beta Particle Activity	pCi/L	50 ^(f)	(0)	4	5.0	5.0	NA	NA	ND	ND	NRA	ND	Decay of natural and man-made deposits
Uranium	pCi/L	20	0.43	1	1.0-2.0	2.0	1.7-2.3	2.0	ND	ND	NRA	2.3	Erosion of natural deposits
DISINFECTION BYPRODUCTS, DISINFECTANT RESIDUALS, AND DISINFECTION BYPRODUCT PRECURSORS													
Total Trihalomethanes (TTHM) ^(g)	ppb	80	NA	1.0	12-17	15	15-28	22	ND	ND	26-45	33	Byproduct of drinking water chlorination
Haloacetic Acids (five) (HAA5) ^(g)	ppb	60	NA	1.0	4.3-8.0	6.2	ND-2	ND	ND	ND	6.2-9.3	8	Byproduct of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	1.1-3.0	Highest RAA 2.4	1.6-3.7	2.9	2.08-3.44	Highest RAA 2.95	1.93-3.93	3.09	Drinking water disinfectant added for treatment
Bromate	ppb	10	0.1	1.0	1.1-9.9	Highest RAA 4.3	1.8-10	Highest RAA 4.2	NA	NA	NRA	ND	Byproduct of drinking water ozonation
DBP Precursors Control as Total Organic Carbon (TOC)	ppm	TT	NA	0.30	TT	TT	TT	TT	ND-1.18	ND	2.3-2.7	2.5	Various natural and man-made sources; TOC as a medium for the formation of disinfection byproducts
SECONDARY STANDARDS – Aesthetic Standards													
Chloride	ppm	500	NA	NA	102-105	104	NRA	110	40-54	44	NRA	100	Runoff/leaching from natural deposits; seawater influence
Color	Color Units	15	NA	NA	1	1	ND	ND	ND	ND	ND	ND	Naturally-occurring organic materials
Odor Threshold	TON	3	NA	1	2	2	NRA	2	ND	ND	NRA	2	Naturally-occurring organic materials
Specific Conductance	µS/cm	1,600	NA	NA	1,000-1,050	1,020	NRA	1,000	281-318	296	NRA	1,000	Substances that form ions in water; seawater influence
Sulfate	ppm	500	NA	0.5	237-249	243	NRA	250	15.3-17.9	16.7	NRA	240	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (TDS)	ppm	1,000	NA	NA	639-655	647	NRA	690	120-218	194	NRA	680	Runoff/leaching from natural deposits; seawater influence
OTHER PARAMETERS – Chemical													
Alkalinity	ppm	NA	NA	NA	125-130	128	NRA	120	46-56	50.3	NRA	120	
Boron	ppb	NL = 1,000	NA	100	130	130	NRA	140	0.3-0.74	0.41	NRA	150	Runoff/leaching from natural deposits; industrial wastes
Calcium	ppm	NA	NA	NA	75-78	77	NRA	77	15.3-23.3	19.8	NRA	73	
Chlorate	ppb	NL = 800	NA	20	97	NRA	130-320	220	NA	NA	NA	NA	Byproduct of drinking water chlorination; industrial processes
Corrosivity ^(h) (as Aggressive Index)	AI	NA	NA	NA	12.5	12.5	NRA	13	11.29-12.06	11.83	NRA	13	Elemental balance in water; affected by temperature, other factors
Corrosivity ⁽ⁱ⁾ (as Saturation Index)	SI	NA	NA	NA	0.63-0.74	0.69	NRA	0.91	(-0.4)-2.05	0.74	NA	NA	Elemental balance in water; affected by temperature, other factors
Hardness	ppm	NA	NA	NA	290-307	299	NRA	310	39.5-60.3	50.3	NRA	300	
Magnesium	ppm	NA	NA	NA	25-27	26	NRA	28	0.29-0.57	0.4	NRA	29	
pH	pH Units	NA	NA	NA	8.1-8.2	8.1	7.7-8.3	8.1	7.99-8.74	8.52	NRA	8.4	
Potassium	ppm	NA	NA	NA	4.7-5.1	4.9	NRA	4.9	1.0-1.6	1.4	NRA	5.3	
Sodium	ppm	NA	NA	NA	96-103	100	NRA	120	32.1-94.1	39.9	NRA	110	
Total Organic Carbon (TOC)	ppm	TT	NA	0.30	2.0-2.6	Highest RAA 2.3	2.0-2.4	2.2	ND-1.18	Highest RAA ND	2.3-2.7	2.5	Various natural and man-made sources; TOC as a medium for the formation of disinfection byproducts

See page 5 for Footnotes; see Page 6 for Abbreviations and Definitions

Distribution System Data

Parameter	Units	State or Federal MCL [MRDL]	PHG (MCLG) [MRDLG]	State DLR	OMWD Dist. System		Major Sources in Drinking Water
					Range	Average	
PRIMARY STANDARDS – Mandatory Health-Related Standards							
MICROBIOLOGICAL							
Total Coliform Bacteria ^(b)	%	5.0	(0)	NA	0–1.2%	0%	Naturally present in the environment
Fecal Coliform and <i>E. coli</i>	(c)	(c)	(0)	NA	0%	0%	Human and animal fecal waste
Heterotrophic Plate Count (HPC) ^(d)	CFU/mL	TT	NA	NA	ND–532	7.40	Naturally present in the environment
DISINFECTION BY-PRODUCTS AND DISINFECTANT RESIDUALS							
Total Trihalomethanes (TTHM) ^(g)	ppb	80	NA	1	30.6–46	Highest LRAA 42	By-product of drinking water chlorination
Haloacetic Acids (five) (HAA5) ^(g)	ppb	60	NA	1	9.9–15	Highest LRAA 14	By-product of drinking water chlorination
Total Chlorine Residual	ppm	[4.0]	[4.0]	NA	0.22–3.45	Highest RAA 2.29	Drinking water disinfectant added for treatment
INORGANIC CHEMICALS							
Copper ^(j) 2013	ppm	AL = 1.3	0.17	0.05	0.032–0.820	90th Percentile 0.336	Internal corrosion of household pipes; erosion of natural deposits
Lead ⁽ⁱ⁾ 2013	ppb	AL = 15	0.2	5	ND–7	90th Percentile 0.005	Internal corrosion of household pipes; erosion of natural deposits
SECONDARY STANDARDS – Aesthetic Standards							
Color	Units	15	NA	NA	ND–2	0.38	Naturally occurring organic materials
Odor Threshold	TON	3	NA	1	ND	ND	Naturally occurring organic materials
Turbidity ^(a)	NTU	5	NA	NA	ND–1.0	0.09	Soil runoff

See page 6 for Abbreviations and Definitions

Footnotes

- ^(a) Turbidity, a measure of the cloudiness of the water, is an indicator of treatment performance. As a Primary Standard, for MWD the turbidity levels of the filtered water were less than or equal to 0.3 NTU in 95% of the online measurements taken each month and did not exceed 1 NTU for more than one hour. For SDCWA, Carlsbad, and OMWD the turbidity level from the combined filtered effluent of the membranes were less than or equal to 0.1 NTU in 95% of the measurements taken each month and did not exceed 1.0 NTU at any time. Distribution samples (295) at OMWD were collected; the system was in compliance with the Secondary Standard.
- ^(b) Total coliform MCL: For OMWD's distribution system, no more than 5.0% of the monthly samples may be total coliform positive. For OMWD, 1,100 samples were analyzed. Four (4) samples were positive for total coliforms. The MCL was not violated.
- ^(c) *E. coli* MCL: For OMWD's Distribution system the occurrence of two consecutive total coliform-positive samples, one of which contains *E. coli*, constitutes an acute MCL violation. For OMWD 1,100 samples were analyzed with no *E. coli* positive results. The MCL was not violated.
- ^(d) All distribution samples collected for OMWD in 2015 had detectable total chlorine residuals and no HPC was required. OMWD voluntarily tested for HPC in the Distribution System 363 times; the range and average is provided.
- ^(e) The MWD, SDCWA, Carlsbad and OMWD plants were all in compliance with all provisions of the state's fluoridation system requirements. Fluoride control range is 0.7–1.3 ppm; optimal level is 0.7 ppm.
- ^(f) SWRCB considers 50 pCi/L to be the level of concern for beta particles; the gross beta particle activity MCL is 4 millirem/year annual dose equivalent to the total body or any internal organ.
- ^(g) TTHM and HAA5 results for the DCMWTP and OMWD distribution system are provided. In 2015 MWD, SDCWA, Carlsbad, and OMWD were in compliance with all provisions of the Stage 2 Disinfectants/Disinfection By-Products Rule (D/DBP). OMWD's distribution system compliance was based on the LRAA.
- ^(h) AI <10.0 = Highly aggressive and very corrosive water; AI >12.0 = Non-aggressive water; AI (10.0–11.9) = Moderately aggressive water.
- ⁽ⁱ⁾ Positive SI index = non-corrosive; tendency to precipitate and/or deposit scale on pipes; Negative SI index = corrosive; tendency to dissolve calcium carbonate.
- ^(j) Lead and copper are regulated as a TT under the Lead and Copper Rule, which requires water samples to be collected at the consumers' tap. If action levels are exceeded in more than 10% of the consumer tap samples, water systems must take steps to reduce these contaminants. OMWD collected 30 samples in 2013, results are provided. OMWD does not utilize lead pipes.

Abbreviations and Definitions

- AI** – Aggressiveness Index
- AL** – Action Level
- CFU** – Colony-Forming Units
- DBP** – Disinfection By-Products
- DLR** – Detection Limits for purposes of Reporting
- LRAA** – Locational Running Annual Average – *The highest LRAA is the highest of all Locational Running Annual Averages calculated as average of all samples collected within a 12-month period.*
- MCL** – Maximum Contaminant Level – *The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close as the PHGs as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.*
- MCLG** – Maximum Contaminant Level Goal – *The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. Environmental Protection Agency.*
- MRDL** – Maximum Residual Disinfectant Level – *The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.*
- MRDLG** – Maximum Residual Disinfectant Level Goal – *The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.*
- NA** – Not Applicable
- ND** – Not Detected
- NL** – Notification Level
- NRA** – No Running Average – *Single sample collected*
- NTU** – Nephelometric Turbidity Units
- pCi/L** – Picocuries per Liter
- PDWS** – Primary Drinking Water Standard – *MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.*
- PHG** – Public Health Goal – *The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California Environmental Protection Agency.*
- ppb** – Parts per billion or micrograms per liter (µg/L)
- ppm** – Parts per million or milligrams per liter (mg/L)
- ppt** – Parts per trillion or nanograms per liter (ng/L)
- RAA** – Running Annual Average – *Highest RAA is the highest of all Running Annual Averages calculated as average of all the samples collected within a 12-month period*
- SI** – Saturation Index (Langelier)
- SWRCB** – California State Water Resources Control Board
- TON** – Threshold Odor Number
- TT** – Treatment Technique – *A required process intended to reduce the level of a contaminant in drinking water*
- µS/cm** – Microsiemens per centimeter or micromho per centimeter (µmho/cm)

We Encourage You to Get Involved

We encourage public participation in decisions affecting your community's drinking water and any other water issues. Up to two Board of Directors meetings are held each month. Dates and times of these meetings vary, so please check www.olivenhain.com for current information. The public is welcome and encouraged to attend these meetings.

For Additional Information

For more information on this report, call David Smith, Olivenhain Municipal Water District Operations Manager, at **760-415-2304** or dsmith@olivenhain.com.

Este informe contiene información muy importante sobre su agua potable. Tradúzcalo o hable con alguien que lo entienda bien. Si tiene preguntas, llame a Eddie Rodriguez, teléfono 760-632-4220.



Municipal Water District

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Published by Olivenhain Municipal Water District in the interest of an informed public.

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Board Meeting Dates

Please visit our website at www.olivenhain.com for dates.

Mission Statement

Olivenhain Municipal Water District is a multi-functioning public agency that is dedicated and committed to serving present and future customers in a service-oriented manner by:

Water

Providing safe, reliable, high-quality drinking water while exceeding all regulatory requirements in a cost-effective and environmentally responsive manner.

Recycled Water

Providing recycled water and wastewater treatment in the most cost-effective and environmentally responsive method.

Parks

Safely operating the Elfin Forest Recreational Reserve and providing all users with a unique recreational, educational, and environmental experience.

Emergency Management

Complying with policies and procedures that adhere to local, state, and federal guidelines for national security and disaster preparedness.

Sustainable Operations

Pursuing alternative and/or renewable resources with the most sustainable, efficient, and cost-effective approach.



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A Public Agency Providing:

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