

We Keep It Flowing.



2017 WATER QUALITY REPORT

Water Quality



Learn about the sources and quality of your drinking water, how we monitor it and protect it.

Sustainability



Discover how you can do your part to prevent water waste and conserve our most precious resource.

Santa Ana News



Read about the latest news, upcoming events, current rebate programs and more.



On behalf of the City of Santa Ana Public Works Agency, I am pleased to present this Annual Consumer Confidence Report.



The overriding theme of this year's water quality report is long term sustainability.

Sustainability goes beyond the environment. It is the long term good of the whole community. That means, as your Public Works Agency, we make decisions that are simultaneously beneficial for Santa Ana's residents, economic development and overall quality of life as well as the environment.

This holistic approach is what drives the timing and execution of our street repairs and expansions, alternative transportation and traffic management solutions, pedestrian safety improvements, as well as water and sewer infrastructure upgrades. For example, we work closely with our engineers to carefully plan water and sewer infrastructure upgrades in conjunction with street improvements. In this way, when we repave streets and repair sidewalks or lay down tracks for a new trolley system, the replacement of aging pipelines underground will already be in place. We continually balance and prioritize long range projects with the immediate issues most important to you.

- **OC Streetcar.** Construction of this \$300 million trolley system, which is fully funded through federal and local grants, will begin this fall. After its completion in 2020, the OC Streetcar will provide "green" mass transit from the Santa Ana Regional Transportation Center (SARTC), through Santa Ana's civic center and downtown district before finally connecting to a future transit hub in Garden Grove.

- **Enterprise Asset Management System.** In keeping with our holistic approach to public works, a new integrated system will be online in 2020 to improve the efficiency and management of our fixed assets, inventory, service requests and

work orders across multiple public works divisions. Detailed reporting and analytics will enable us to prioritize and plan future projects more effectively. An online portal for residents will allow you to report and track service issues as well as city improvements in real-time.

- **New Solid Waste Contract.** As we work on procuring a new qualified service provider for 2020, we are developing a more comprehensive "green" policy relative to solid waste management and recycling.

- **LED Street Lights.** We are purchasing streetlights from Southern California Edison and will be retrofitting them with LED fixtures this year to improve street lighting, save energy costs and reduce carbon emissions. To maximize this asset, we will use these streetlights to facilitate a citywide broadband network and telecommunications system utilizing fiber optic technology.

We are excited about the benefit these projects will bring to Santa Ana.

This is your community. Our public works infrastructure belongs to you. We want to make sure the investments we make meet what you need most.

We invite you to get involved and voice your ideas so we get a clear idea of your priorities and what we want to achieve together.

We are all stewards of Santa Ana. Together, we can help keep our city vital for future generations to come.

Edwin 'William' Galvez
Acting Executive Director
Public Works Agency
City of Santa Ana

Senate Bill 1

This November, a measure to repeal SB 1 will be on the ballot. This bill was passed in 2017 to fund transportation improvement projects, including projects in Santa Ana. Be sure to read about SB1 so you can be informed when you vote at the polls this fall.

2 Water Quality



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Santa Ana's the nation's best
Tap Water: tasting and
highest quality

What is a CCR?



The Consumer Confidence Report (CCR) is an annual water quality report that informs you where your drinking water comes from and what's in it.

Read this report to learn more about the water provided by Santa Ana and what the City is doing to ensure the highest quality of water is delivered to you year after year.

The following questions and answers, numbers 1 through 7, will explain the important elements of the data tables and more.

1. Where does Santa Ana get its water?

The City of Santa Ana relies on two sources for the 12.5 billion gallons of water we supply each year.

Groundwater — 70% is groundwater which accumulates and is stored beneath the surface of the earth and then pumped to the surface by 20 city-owned wells.

Imported — 30% is imported water purchased from Metropolitan Water District of Southern California (MWD). MWD is a regional wholesaler that provides water for 26 member public agencies like Santa Ana throughout Los Angeles, Orange, Riverside, San Bernardino, San Diego and Ventura counties. MWD brings Colorado River water from Lake Havasu through the 242-mile Colorado River Aqueduct. It also transports water from Northern California via the State Water Project's 444-mile California Aqueduct. The water is then treated at either the Diemer Filtration Plant in Yorba Linda or the Weymouth Water Treatment Plant in the City of La Verne before it is delivered to Santa Ana. There are seven MWD connections located in Santa Ana.

Most of our customers receive a blending of these two sources. You can read about the water quality standards for each of these sources in the data tables. We have

listed groundwater and imported water in separate tables. An additional table lists the water quality standards for Santa Ana's water distribution system.

2. What's in my drinking water?

Your tap water may contain different types of chemicals (organic and inorganic), microscopic organisms (e.g., bacteria, algae, viruses) and radioactive materials (radionuclides), many of which are naturally occurring. Health agencies require monitoring for these constituents or substances, because at certain levels they could make a person sick.

3. What are the maximum allowed levels for constituents in drinking water?

Health agencies have maximum contaminant levels (MCL) for constituents so that drinking water is safe and looks, tastes and smells good. A few constituents have the letters "TT" (Treatment Technique) in the MCL column because they do not have a numerical MCL. Instead, they have certain treatment requirements that have to be met. One of the constituents, total chlorine residual, has an MRDL (maximum residual disinfection level) instead of an MCL.

The MRDL is the maximum level of a disinfectant added for water treatment that is allowed in water. While disinfectants are necessary to kill harmful microbes, drinking water regulations protect against too much disinfectant being added. Another constituent, turbidity, has a requirement that 95 percent of the measurements taken must be below a certain number. Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the efficiency of the filtration system.



Courtesy of The Metropolitan Water District of Southern California



Courtesy of The Metropolitan Water District of Southern California

What is a CCR?



4. Why are some of the constituents listed in the section labeled “Primary Standards” and others in the “Secondary Standards”?

Constituents that are grouped in the “Primary Standards” section may be unhealthy at certain levels. Constituents that are grouped under the “Secondary Standards” section can affect the appearance, taste and smell of water, but do not affect the safety of the water unless they also have a primary standard. Some constituents (e.g., aluminum) have two different MCLs, one for health-related impacts, and another for non-health-related impacts.

5. How do I know how much of a constituent is in my water and if it is at a safe level?

With a few exceptions, if the average amount of a constituent found in tap water over the course of a year is no greater than the MCL, then the regulatory requirements are considered to be satisfied. The highest and lowest levels measured over a year are shown in the range. Requirements for safety, appearance, taste and smell are based on the average levels recorded and not the range.

6. How do constituents get into our water supply?

Drinking water (tap water and bottled water) comes from 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 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** that 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 byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems.
- **Radioactive contaminants** that can be naturally-occurring or be the result of oil and gas production and mining activities.



Courtesy of The Metropolitan Water District of Southern California

What is a CCR?



7. Are there any potential sources of contamination in our system?

Groundwater—An assessment of the drinking water wells for the City of Santa Ana was completed in December 2017. Santa Ana’s wells are considered most vulnerable to historic agricultural activities, golf courses, and application of fertilizers, which are associated with contaminants detected in the water supply. Our wells are also considered most vulnerable to chemical/petroleum pipelines, chemical/petroleum processing/stores, dry cleaners, gas stations, junk/ scrap/salvage yards, metal plating/finishing/fabrication, plastics/synthetics producers, and sewer collection systems, although constituents associated with these activities were not detected.

Imported Water—Every five years, MWD is required by the Division of Drinking Water (DDW) to examine possible sources of drinking water contamination in its State Water Project and Colorado River source waters. MWD submitted to DDW its most recent Watershed Sanitary Surveys: the Colorado River Watershed Sanitary Survey-2015 Update and the State Water Project Watershed Sanitary Survey-2016 Update. You can request a copy of the most recent Watershed Sanitary Surveys by calling MWD at 800.CALL.MWD.



Protecting Our Source Water

Safeguarding our water is everyone’s responsibility. Here’s what you can do to help protect Santa Ana’s drinking water source:

- Limit your use of fertilizers and pesticides. The hazardous chemicals in both can reach our drinking water source.
- Pick up after your pets.
- Dispose of chemicals properly; take used motor oil and paint to recycling center.
- Find a watershed protection organization, like the Santa Ana Watershed Association, and volunteer to help.





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 the water poses a health risk. You can learn more about contaminants and potential health effects by calling the U.S. Environmental Protection Agency's (USEPA) Safe Drinking Water Hotline at 800-426-4791 or visiting the website at epa.gov/safewater.

In order to ensure that tap water is safe to drink, USEPA and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that provide the same protection for public health. Additional information on bottled water is available on the California Department of Public Health website: http://bit.ly/CDPH_FAQs

People with Weakened Immune Systems

Although Santa Ana meets all drinking water standards, 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, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers.

[USEPA/Centers for Disease Control \(CDC\) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791.](#)



water & your health



Cryptosporidium.

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. To date, cryptosporidium has not been detected in our water supply. USEPA/ CDC (U.S. Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at 800-426-4791. For more information, visit cdc.gov/parasites/crypto/index.html.

Fluoride.

The City of Santa Ana receives approximately 30 percent of its water supply from MWD. Beginning in October 2007, MWD joined a majority of the nation's public water suppliers in adding fluoride to the treated water it supplies to state water agencies, a plan approved by the CDC and the State Water Resources Control Board (SWRCB). Santa Ana's well water has a naturally occurring fluoride range level of 0.18 to 0.5 parts per million (ppm). Water provided by MWD has been adjusted to the optimal level for dental health of 0.7 to 0.8 ppm. Additional information may be found by calling MWD's Water Quality Information Hotline at 800-354-4420. You can also download MWD's fact sheet at <http://bit.ly/MWDFluoridation> or visit ada.org/fluoride.aspx.

Hexavalent Chromium.

Hexavalent chromium, also known as chromium-6, can be present in water due to natural geologic conditions or from industrial pollution. Long-term exposure to the metal may cause cancer.

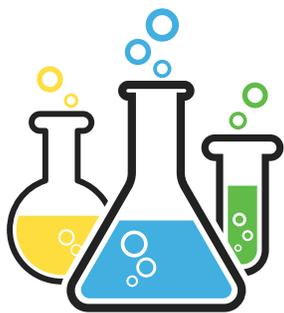
California became the first state in the nation to issue a drinking water standard for chromium-6 when it set the MCL at 10

parts per billion (ppb) in 2014. However, a 2017 court ruling concluded compliance with the MCL was not economically feasible.

California's State Water Board is working on adopting a new MCL. Meanwhile, the state MCL for total chromium of 50 ppb will remain in place. Total chromium measures both trivalent and hexavalent chromium in water together and does not indicate how much of either type exists. Trivalent chromium is not considered toxic and is an essential nutrient in trace amounts. The U.S. Environmental Protection Agency's MCL for total chromium is 100 ppb.

Lead.

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. The City of Santa Ana is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants. 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 epa.gov/lead.





Courtesy of The Metropolitan Water District of Southern California

Additional Information of Interest



Nitrate.

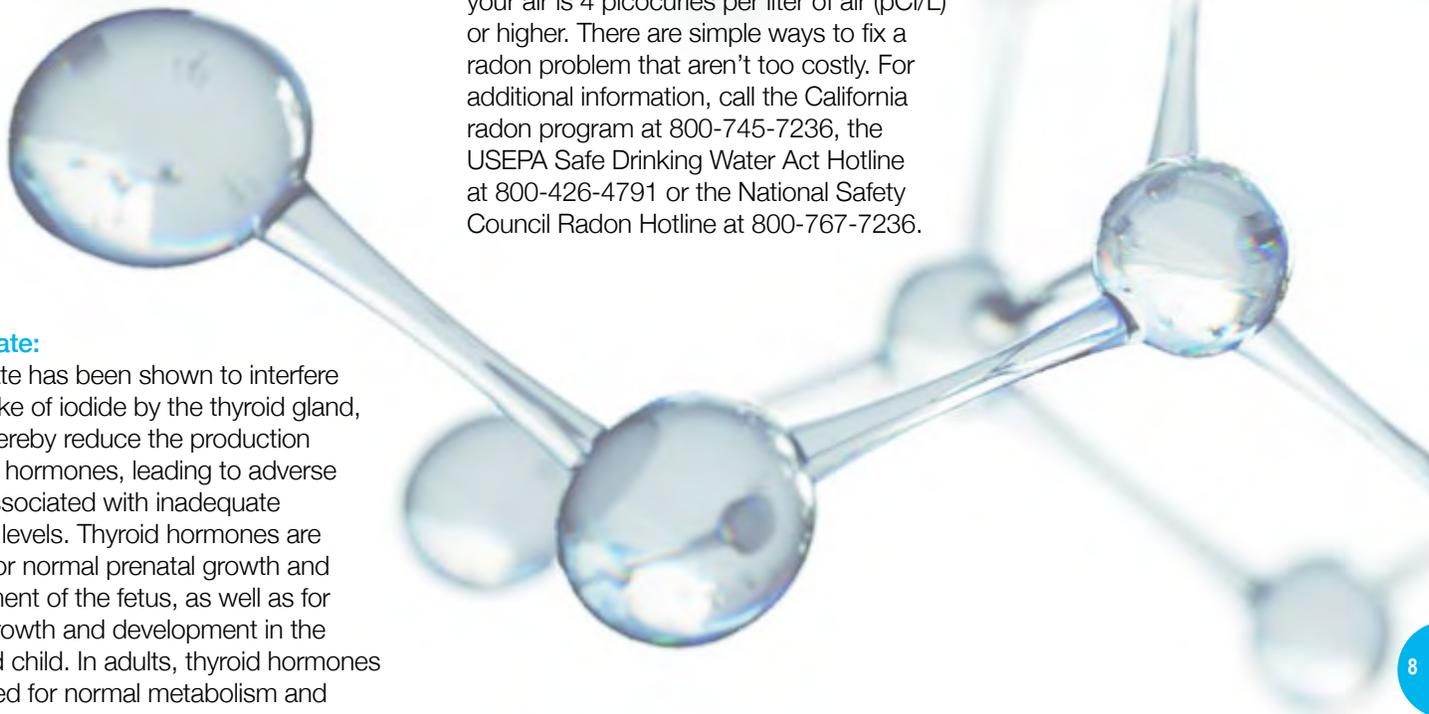
Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. Nitrate in drinking water at levels above 10 mg/L is a health risk for infants of less than six months of age. Such nitrate levels in drinking water can interfere with the capacity of the infant's blood to carry oxygen, resulting in a serious illness. Symptoms include shortness of breath and blueness of the skin. Nitrate levels above 10 mg/L may also affect the ability of the blood to carry oxygen in other individuals, such as pregnant women and those with certain specific enzyme deficiencies. If you are caring for an infant, or you are pregnant, you should ask advice from your health care provider.

Radon:

Radon is a radioactive gas that you can't see, taste, or smell. It is found throughout the U.S. Radon can move through the ground and into a home through cracks and holes in the foundation. Radon can build up in high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will in most cases be a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information, call the California radon program at 800-745-7236, the USEPA Safe Drinking Water Act Hotline at 800-426-4791 or the National Safety Council Radon Hotline at 800-767-7236.

Perchlorate:

Perchlorate has been shown to interfere with uptake of iodide by the thyroid gland, and to thereby reduce the production of thyroid hormones, leading to adverse effects associated with inadequate hormone levels. Thyroid hormones are needed for normal prenatal growth and development of the fetus, as well as for normal growth and development in the infant and child. In adults, thyroid hormones are needed for normal metabolism and mental function.





Use this glossary to understand the terms, abbreviations, quality standards, and measurements used in the data tables.

Terms & Abbreviations

Constituents

Components or elements found in drinking water.

Maximum Contaminant Level (MCL)

The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs are set to protect the odor, taste, and appearance of drinking water.

Maximum Contaminant Level Goal (MCLG)

The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the USEPA.

Maximum Residual Disinfectant Level (MRDL)

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.

Maximum Residual Disinfectant Level Goal (MRDLG)

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.

Primary Drinking Water Standard (PDWS)

The MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

Public Health Goal (PHG)

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 (Cal/EPA).

Regulatory Action Level

The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements that a water system must follow.

Treatment Technique (TT)

A required process intended to reduce the level of contaminants in drinking water that are difficult and sometimes impossible to measure directly.

Additional Abbreviations

AL = Regulatory Action Level

CFU = Colony-Forming Units

MFL = Million Fibers per Liter

NA = Not Applicable

NC = Not Collected

ND = Not Detected

NL = Notification Level

NR = Not Required

NS = No Standard



Measurements

Santa Ana conducts extensive sampling and testing to ensure your water meets all water quality standards. In 2017, over 11,000 samples were collected at various sampling points throughout the City's water system, all of which were below state and federal maximum allowable levels. Contaminants are measured in:

Parts per million (ppm) or milligrams per liter (mg/L)

Parts per billion (ppb) or micrograms per liter (µg/L)

Parts per trillion (ppt) or nanograms per liter (ng/L)

Parts per quadrillion (ppq) or picograms per liter

PicoCuries per liter (pCi/L)

A measurement of radioactivity in water.

Millirems per year (mrem/year)

A measurement of radiation absorbed by the body.

Micromhos per centimeter (umho/cm)

Grains per gallon (grains/gal)

A measurement of water hardness often used for sizing household water softeners. One grain per gallon is equal to 17.1 mg/L of hardness.

Nephelometric Turbidity Units (NTU)

A measurement of the clarity of water. Turbidity in excess of 5 NTU is noticeable to the average person.

Quality Standards

Primary Standards

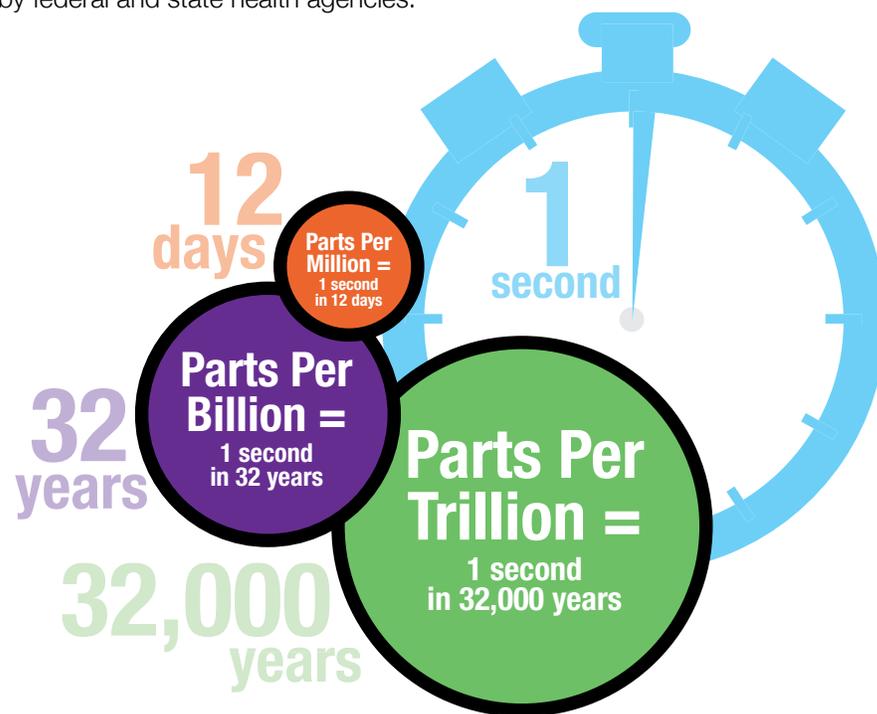
Mandatory health-related standards that may cause health problems in drinking water.

Secondary Standards

Aesthetic standards (non health-related) that could cause odor, taste, or appearance problems in drinking water.

Unregulated Parameters

Information about contaminants that are monitored, but are not currently regulated by federal and state health agencies.



How are the detection levels we measure equivalent to time?

How To Read The Data Tables



You will find three data tables showing a list of constituents tested in each of the following water sources:

- Santa Ana Distribution System
- Santa Ana Groundwater
- Metropolitan Water District of Southern California Treated Surface Water

For each table, begin with the Constituent and read across.

- 1 The column marked “Constituents” lists the substances found in the water Santa Ana delivers.
- 2 MCL is the highest level of substance (contaminant) allowed. MCLG is the goal level for that substance (this may be lower than what is allowed).
- 3 Average Amount is the average level measured for the substance (less is better).
- 4 Range of Detections is the highest and lowest amounts measured.
- 5 A “No” under MCL Violation indicates government requirements were met.
- 6 Typical Sources in Drinking Water tells you where the constituent usually originates.

Note: “Unregulated Constituents” are measured, but maximum allowed contaminant (MCL) levels have not been established by the government.





2017 Water Quality Table



2017 CITY OF SANTA ANA DISTRIBUTION SYSTEM WATER QUALITY

1 Constituents	2 MCL (MRDL/MRDLG)	3 Average Amount	4 Range of Detections	5 MCL Violation?	6 Typical Source in Drinking Water
DISINFECTANT RESIDUAL AND DISINFECTION BY-PRODUCTS					
Chlorine Residual (ppm)	(4 / 4)	1.1	ND - 2.98	No	Disinfectant Added for Treatment
Total Trihalomethanes (ppb) ¹	80	35	ND - 38	No	Byproducts of Chlorine Disinfection
Haloacetic Acids (ppb) ¹	60	12	ND - 16	No	Byproducts of Chlorine Disinfection
AESTHETIC QUALITY					
Odor (threshold odor number)	3*	1	1 - 2	No	Naturally-occurring organic materials
Turbidity (ntu)	5*	<01	ND - 1.3	No	Erosion of natural deposits

*Chemical is regulated by a secondary standard to maintain aesthetic qualities (color, odor, and taste).

Microbiological	MCL	MCLG	Highest Monthly Percent Positives	MCL Violation?	Typical Sources in Drinking Water
Total Coliform Bacteria ²	5.0	0	0.5%	No	Naturally present in the environment

LEAD AND COPPER ACTION LEVELS AT RESIDENTIAL TAPS

Constituents	Action Level (AL)	Public Health Goal	90th Percentile Value	Sites Exceeding AL / Number of Sites	AL Violation?	Typical Source in Drinking Water
Lead (ppb) ³	15	0.2	ND	0 / 80	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits
Copper (ppm) ³	1.3	0.3	0.17	0 / 80	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits

In 2015, 80 residences were tested for lead and copper at-the-tap. Lead was not detected in any of the samples. Copper was detected in 66 samples, none of which exceeded the AL for copper. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2017, no school submitted request to be sampled for lead.

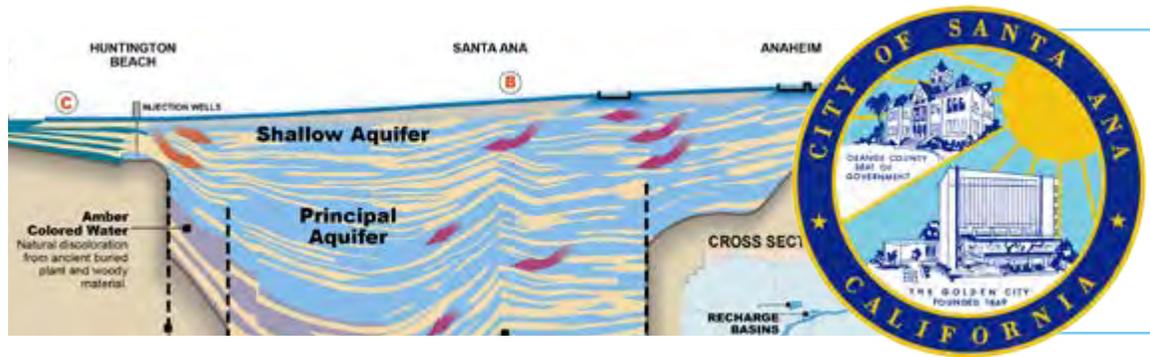
UNREGULATED CHEMICALS REQUIRING MONITORING IN THE DISTRIBUTION SYSTEM

Constituents	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	49.8	37.5 - 85.8	2014
Chromium, Hexavalent (ppb)	n/a	0.02**	0.73	0.09 - 1.1	2014
Chromium, Total (ppb) ***	MCL = 50	MCLG = 100	0.56	ND - 0.9	2014
Molybdenum, Total (ppb)	n/a	n/a	4.38	3.8 - 5.2	2014
Strontium, Total (ppb)	n/a	n/a	715	547 - 959	2014
Vanadium, Total (ppb)	50	n/a	2.8	2.3 - 2.8	2014

** There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

*** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.

2017 Water Quality Table



2017 CITY OF SANTA ANA GROUNDWATER QUALITY

Constituents	MCL	PHG (MCLG)	Average Amount	Range of Detections	MCL Violation?	Most Recent Sampling Date	Typical Source in Drinking Water
Radiologicals							
Uranium (pCi/l)	20	0.43	3.13	ND - 5.85	No	2017	Erosion of Natural Deposits
Inorganic Constituents							
Arsenic (ppb)	10	0.004	< 2	ND - 2.5	No	2017	Erosion of Natural Deposits
Barium (ppm)	1	2	< 0.1	ND - 0.151	No	2017	Erosion of Natural Deposits
Fluoride (ppm)	2	1	0.35	0.18 - 0.5	No	2017	Erosion of Natural Deposits
Nitrate (ppm as N)	10	10	1.9	ND - 3.4	No	2017	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Nitrate + Nitrite (ppm as N)	10	10	1.9	ND - 3.4	No	2017	Runoff and Leaching from Fertilizer Use; Leaching from Septic Tanks and Sewage; Erosion of Natural Deposits
Perchlorate (ppb)	6	1	< 4	ND - 5.1	No	2017	Discharge from Industrial Operations
Secondary Standards*							
Chloride (ppm)	500*	n/a	51.1	20.4 - 99	No	2017	Erosion of Natural Deposits
Specific Conductance (umho/cm)	1,600*	n/a	660	439 - 995	No	2017	Substance that forms ions when in water
Sulfate (ppm)	500*	n/a	89	47.7 - 134	No	2017	Erosion of Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	403	256 - 602	No	2017	Erosion of Natural Deposits
Turbidity (ntu)	5*	n/a	< 0.1	ND - 0.2	No	2017	Soil Runoff
Unregulated Constituents							
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	n/a	167	144 - 216	n/a	2017	Erosion of Natural Deposits
Bicarbonate (ppm HCO ₃)	Not Regulated	n/a	204	176 - 263	n/a	2017	Erosion of Natural Deposits
Boron (ppm)	NL=1	n/a	< 0.1	ND - 0.21	n/a	2017	Erosion of Natural Deposits
Calcium (ppm)	Not Regulated	n/a	74.1	35.9 - 119	n/a	2017	Erosion of Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	14.2	7 - 22.8	n/a	2017	Erosion of Natural Deposits
Hardness, total (ppm as CaCO ₃)	Not Regulated	n/a	242	119 - 385	n/a	2017	Erosion of Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	14.1	7.1 - 21.5	n/a	2017	Erosion of Natural Deposits
pH (pH units)	Not Regulated	n/a	7.8	7.5 - 8	n/a	2017	Acidity Hydrogen Ions
Potassium (ppm)	Not Regulated	n/a	2.3	1.3 - 3.1	n/a	2017	Erosion of Natural Deposits
Sodium (ppm)	Not Regulated	n/a	45.6	35.5 - 66.7	n/a	2017	Erosion of Natural Deposits

* Contaminant is regulated by a secondary standard to maintain aesthetic qualities (taste, odor, color).

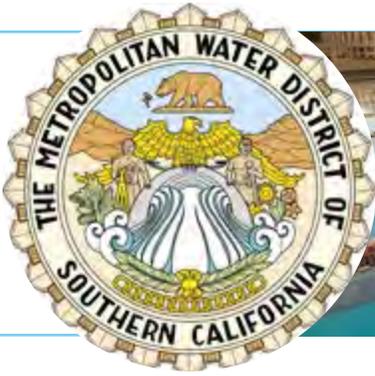
**There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

UNREGULATED CHEMICALS REQUIRING MONITORING

Constituents	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
1,4-Dioxane (ppb)	1	n/a	0.14	ND - 0.24	2014
Chlorate (ppb)	800	n/a	63.3	21.1 - 249	2014
Chromium, Hexavalent (ppb)	n/a	0.02**	1.01	0.21 - 2.06	2014
Chromium, Total (ppb) ***	MCL = 50	MCLG = 100	0.85	ND - 1.8	2014
Molybdenum, Total (ppb)	n/a	n/a	4.92	2.6 - 11.1	2014
Strontium, Total (ppb)	n/a	n/a	529	244 - 766	2014
Vanadium, Total (ppb)	50	n/a	2.69	1.4 - 5.2	2014

** There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

*** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.



Courtesy of The Metropolitan Water District of Southern California

2017 Water Quality Table



2017 MWD TREATED SURFACE WATER

1 Constituents	2 MCL	2 PHG (MCLG)	3 Average Amount	4 Range of Detections	5 MCL Violation ?	6 Typical Source in Drinking Water
Inorganic Constituents - Tested in 2017						
Aluminum (ppm)	1	0.6	0.168	0.12 - 0.24	No	Treatment Process Residue, Natural Deposits
Fluoride (ppm) treatment-related	Control Range 0.6 - 1.2 ppm Optimal Level 0.7 ppm		0.7	0.6 - 0.9	No	Water Additive for Dental Health
Secondary Standards - Tested in 2017						
Aluminum (ppb)	200*	600	160	ND -130	No	Treatment Process Residue, Natural Deposits
Chloride (ppm)	500*	n/a	50	34 - 66	No	Runoff or Leaching from Natural Deposits
Color (color units)	15*	n/a	1	1	No	Naturally-occurring Organic Materials
Odor (threshold odor number)	3*	n/a	2	2	No	Naturally-occurring Organic Materials
Specific Conductance (umho/cm)	1,600*	n/a	490	351 - 630	No	Substances that Form Ions in Water
Sulfate (ppm)	500*	n/a	96	65 - 127	No	Runoff or Leaching from Natural Deposits
Total Dissolved Solids (ppm)	1,000*	n/a	294	213 - 374	No	Runoff or Leaching from Natural Deposits
Unregulated Constituents - Tested in 2017						
Alkalinity, total as CaCO ₃ (ppm)	Not Regulated	n/a	61	48 - 74	n/a	Runoff or Leaching from Natural Deposits
Boron (ppm)	NL=1	n/a	0.1	0.1	n/a	Runoff or Leaching from Natural Deposits
Calcium (ppm)	Not Regulated	n/a	28	20 - 36	n/a	Runoff or Leaching from Natural Deposits
Hardness, total as CaCO ₃ (ppm)	Not Regulated	n/a	119	82 - 156	n/a	Runoff or Leaching from Natural Deposits
Hardness, total (grains/gallon)	Not Regulated	n/a	7	4.8 - 9.1	n/a	Runoff or Leaching from Natural Deposits
Magnesium (ppm)	Not Regulated	n/a	12	8.1 - 16	n/a	Runoff or Leaching from Natural Deposits
pH (pH units)	Not Regulated	n/a	8.4	8.2 - 8.6	n/a	Hydrogen Ion Concentration
Potassium (ppm)	Not Regulated	n/a	2.8	2.4 - 3.2	n/a	Runoff or Leaching from Natural Deposits
Sodium (ppm)	Not Regulated	n/a	51	39 - 63	n/a	Runoff or Leaching from Natural Deposits
Total Organic Carbon (ppm)	TT	n/a	2.4	1.8 - 3.0	n/a	Various Natural and Man-made Sources
Turbidity - combined filter effluent⁴ Metropolitan Water District Diemer Filtration Plant		Treatment Technique	Turbidity Measurements		TT Violation?	Typical Source of Chemical
1) Highest single turbidity measurement		0.3 NTU	0.08		No	Soil Runoff
2) Percentage of samples less than 0.3 NTU		95%	100%		No	Soil Runoff

UNREGULATED CHEMICALS REQUIRING MONITORING

Constituents	Notification Level	PHG	Average Amount	Range of Detections	Most Recent Sampling Date
Chlorate (ppb)	800	n/a	53.3	38.1 - 67.6	2013
Chromium, Hexavalent (ppb)	n/a	0.02**	0.07	0.03 - 0.12	2013
Chromium, Total (ppb) ***	MCL = 50	MCLG = 100	<0.2	ND - 0.5	2014
Molybdenum, Total (ppb)	n/a	n/a	4.8	4.5 - 5.3	2014
Strontium, Total (ppb)	n/a	n/a	938	854 - 1,070	2014
Vanadium, Total (ppb)	50	n/a	2.8	2.3 - 3	2014

** There is currently no MCL for hexavalent chromium. The previous MCL of 10 ppb was withdrawn on September 11, 2017.

*** Total chromium is regulated with an MCL of 50 ppb but was not detected, based on the detection limit for purposes of reporting of 10 ppb. Total chromium was included as part of the unregulated chemicals requiring monitoring.



Notes



1. Trihalomethanes and Haloacetic

Acids: Eight locations in the distribution system are tested quarterly for total trihalomethanes and haloacetic acids. Fifty locations are tested monthly for color, odor and turbidity. Color was not detected in 2017.

2. Coliform:

No more than 5% of the monthly samples may be positive for total coliform bacteria. The occurrence of 2 consecutive total coliform positive samples, one of which contains fecal coliform/E.coli, constitutes an acute MCL violation. This Consumer Confidence Report (CCR) reflects changes in drinking water regulatory requirements during 2016. All water systems are required to comply with the state Total Coliform Rule. Effective April 1, 2016, all water systems are also required to comply with the federal Revised Total Coliform Rule. The new federal rule maintains the purpose to protect public health by ensuring the integrity of the drinking water distribution system and monitoring for the presence of microbials (i.e., total coliform and E. coli bacteria). The U.S. EPA anticipates greater public health protection as the new rule requires water systems that are vulnerable to microbial contamination to identify and fix problems. Water systems that exceed a specified frequency of total coliform occurrences are required to conduct an assessment to determine if any sanitary defects exist. If found, these must be corrected by the water system.

3. Lead and Copper.

In 2015, 80 residences were tested for lead and copper at-the-tap. Lead was not detected in any of the samples. Copper was detected in 66 samples, none of which exceeded the AL for copper. A regulatory action level is the concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow. In 2017, no school submitted request to be sampled for lead.

4. Combined Filter Effluent Turbidity (NTU).

Turbidity is a measure of the cloudiness of the water, an indication of particulate matter, some of which might include harmful microorganisms. Low turbidity in Metropolitan's treated water is a good indicator of effective filtration. Filtration is called a "treatment technique" (TT). A treatment technique is a required process intended to reduce the level of chemicals in drinking water that are difficult and sometimes impossible to measure directly.



Looking to the Future



His goals are strategic and long-term. His sights are set on a resilient future for Santa Ana.

Ask Nabil Saba how he views his role as Santa Ana's Water Resources Division Manager and his answer goes beyond just maintaining day-to-day operations. He actively champions long-term sustainability. That means looking at new technologies and projects to better manage water resources, improve customer service, curb water rate increases and help keep water available and affordable for generations to come.

In the next few years, he is focused on strengthening the reliability of Santa Ana's water infrastructure by replacing aging pipelines and upgrading and modernizing the water distribution and storage system. These capital improvement programs include drilling two new wells, upgrading the division's supervisory control and data acquisition system (SCADA), a \$3 million project, and replacing five miles of pipeline each year.

Upgrading to an Automated Meter Infrastructure (AMI) is another way he looks to reduce operational costs, improve service and prepare for the Santa Ana's future needs. He spearheaded this initiative and, after conducting a thorough study, the City received \$4 million in funding from the State of California to implement its first phase. A new special taskforce and project manager will oversee the process.

He advocated for Santa Ana's support of the California WaterFix, a \$17 billion project that will protect our state's water supplies from climate change through upgrades to the State Water Project and habitat

restoration in Northern California's Delta. It is the single most cost-effective, large-scale projects to ensure Orange County's long-term water supply.

"We won't see the benefits from this project until 20 years from now, but that's when we'll need it most. It will ensure a reliable water supply for our children's future," he explains.

At the same time, Santa Ana has supported the expansion of Orange County Water District's Groundwater Replenishment System (GWRS), which purifies wastewater before it is injected into our wetlands and groundwater basin, which supplies high quality water for 2.4 million residents in north and central Orange County. The GWRS expansion will reduce the region's dependency on imported water while protecting environmental habitats and natural resources.

"The decisions we make today will impact our long term sustainability and quality of life," he adds. "Santa Ana and other regional agencies have shown exceptional leadership in this regard. Together, we must all commit to a cooperative stewardship of our national resources and to put into place water-smart plans to mitigate the growing impact of climate change."

"The decisions we make today will impact our long term sustainability and quality of life."

Looking to the future, Nabil Saba envisions all water devices, systems and appliances will be more efficient, designed with smart controllers, and available to everyone. Storm water capture will become a way of the future with climate change and recycling water to replenish our groundwater will become a standard.



Safeguarding Our Ecosystem & Health



Conserving water is everyone's responsibility and so is protecting our watersheds and ocean from pollution.

Did you know that what you do in your kitchen can impact the health of our local ecosystem and pose health risks for you, your family and neighbors?

It is as simple as how you dispose of your waste after you cook.

When fatty waste from cooking is poured down the drain, it can solidify and block sewer lines, causing raw sewage to back up into your home, yard, streets and storm drains, eventually making its way into our storm water drain system, waterways, and the ocean.

The Tip of the Fatberg

Fats, oils and grease (FOG) do not break down in water, and even most soaps and other agents, like drain cleaner or detergent, can't dissolve grease effectively enough to keep the sewer system clear.



Ask the City of Baltimore. A massive clog of FOG and other waste that had accumulated in a sewer main near Baltimore's Penn Station was to blame for an overflow that dumped some 1.2 million gallons of sewage into the city's local watershed.

A much larger "fatberg" was also discovered in London, which was some 820 feet long, blocking a stretch of sewer more than twice the length of two soccer fields. According to experts, potentially infectious bacteria including listeria, campylobacter and E coli was found in the London fatberg. This not only poses an immediate risk to city workers cleaning out the sewers, but also to the public since it could backup the system and cause sewage to flood homes and businesses.

While there are no major fatbergs lurking under the streets of Santa Ana, FOG can block your home's pipes and wreak havoc.

Pan to the Can

Be sure to pour unused grease or oil from the pan into a nonrecyclable container (juice can, empty milk carton, coffee can, pet food can). Once it hardens, toss the container into the trash. If you're in a hurry, place the container into the freezer.

You can also do other things to keep your drains FOG-free, such as use a sink strainer to catch food items like bacon and fried chicken that contain FOG and can cause clogs and messy overflows.

You can visit our website and download a FOG FAQ (Frequently Asked Questions) in English and Spanish.

To Flush or Not To Flush

While not FOG, another major culprit to sewage blockages are "flushable" wipes. Wet wipes don't break down in water. So put them in the trash instead.

Is Your Drinking Water at Risk **YOU?** Because of



Water mains aren't the only way contaminants can get into your water supply. There are common cross-connection hazards you should know.

Your water supply enters your home at a certain pressure. On rare occasions, this pressure can be interrupted by a water main break, fire fighters using large quantities of water to extinguish a nearby blaze, or some other disruption in water service. When there is a significant loss of pressure, water can flow by suction back into the public water supply system. This is called "back-siphonage."

Likewise, when your home's water system creates a sudden pressure greater than Santa Ana's public water system, the same effect can occur where water is pushed back into the public water supply. This is called "backpressure" backflow. Without a working backflow preventer, water from a sink or bathtub or dirty irrigation line can easily be pulled back into the main lines.

One is pushing, one is pulling, but the effect is still the same: backflow.

Contamination occurs when a water supply line is connected to equipment containing a non-potable (unsafe to drink) substance. These "cross connections" are dangerous if no protective measures are taken.

Here are common cross connections, which, if improperly protected, can allow contaminants like chemicals, fertilizer, soapy water or even bacteria, back into your pipes and your drinking water supply:

- A hose is submerged in polluted or contaminated water.
- A secondary source of irrigation water (from a well or pond) is pumped into an irrigation system that is directly connected to the potable water supply system.

- A heating boiler with treatment chemical added to prevent internal corrosion is connected directly to the water supply for make-up-water.
- An underground lawn sprinkler system is directly connected to the water supply system.
- A fountain or swimming pool has a direct connection with the water system for filling.

As a homeowner, you are responsible for preventing contaminants from entering into your water system as well as the public water distribution system by properly installing and maintaining backflow prevention devices.

These devices are like seat belts: they protect you from a contamination event that may never occur. But, if it does, you'll be glad you were protected!

Please visit our website for more information and Cross Connection Control Resources: santa-ana.org/water/water-service/cross-connections-backflow/.

Commonly Used Residential Backflow Prevention Devices

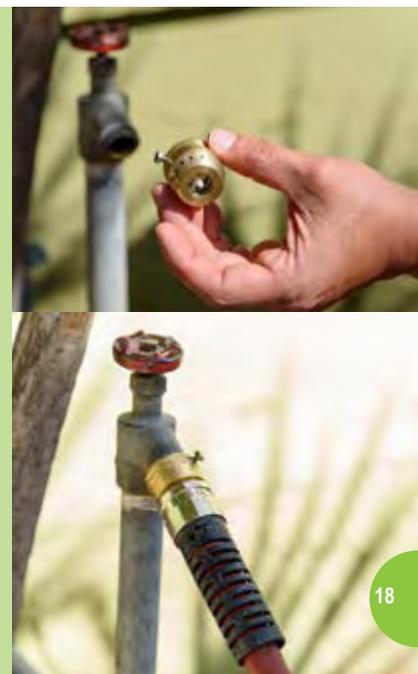
Air Gap:

Used mainly on tanks and faucets, it is a gap between the pipe and the container.

Atmospheric Vacuum Breaker: It has an air inlet valve that will drop to draw in air thus preventing customer system water from entering Santa Ana's water mains.

Pressure Vacuum Breaker:

Used mainly on lawn irrigation systems. It has a one way check and a spring loaded air inlet valve that closes when the public water main pressure drops.





Santa Ana Receives *Another* Encore



Oops, we did it again! The City of Santa Ana earned another rare encore at the 28th annual Berkeley Springs International Water Tasting, the largest and longest running competition in the world dedicated to preserving and protecting drinking water.

It was the fourth encore Santa Ana has received at the competition—touted as the Academy Awards of Water—where the City grabbed the gold medal for producing the best tasting and highest quality tap water in the country. Santa Ana won the gold medal in 2014, after claiming the bronze and silver medals in 2011 and 2012.

“Winning the nation’s top award in our category is phenomenal. Winning the award four times attests to the high standards we set for our tap water and the dedication of our certified specialists who are committed to serving our customers,” says Nabil Saba, Water Resources Manager, City of Santa Ana.

Our Performance Continues

There had been some speculation that the City might win the award again. After all, Santa Ana’s Water Resources Division ensures that its drinking water exceeds health standards required by both state and federal agencies year after year.

While some may take the quality of their drinking water for granted, Santa Ana does not. Backstage, the Water Resources Division performs year-round monitoring, where over 11,000 samples

are collected at various sampling points throughout the City’s water system to ensure the community enjoys the highest quality tap water possible.

Residents can take pride knowing that the twelve judges at the Berkeley Springs International Water Tasting chose Santa Ana’s tap water over all other entries in the municipal water category. Similar to a wine tasting, they rated the water for each attribute including appearance (should be clear), aroma (should be none), taste (should taste clean), mouth feel (should feel light), and aftertaste (should leave people thirsty for more).

The next time you think about drinking bottled water, we invite you to turn on the tap and fill your glass. Who knows, you may feel inspired to offer a toast to the City for a job well done!



Upcoming Events



Free Water Wise Gardening Workshops

Santa Ana's Water Resources Division invites you to learn about water-wise gardening for your home. You'll learn everything you need to know about changing your lawn into a beautiful drought tolerant landscape:

- How to create healthy soil.
- The importance of mulch.
- Invasive weeds and ways to remove them.
- Picking a plant pallet that is suited for your climate & environment.

Our Saturday workshops will include fun gardening activities for children. Bring the entire family!

RSVP for the classes: (714) 647-3500



ORANGE COUNTY
COASTKEEPER



Courtesy of The California Department of Water Resources

June 30	9:30 am — 11:30 am	Makara Center, 811 N. Main Street
July 21	9:30 am — 11:30 am	Public Library, 26 Civic Center Plaza
August 16	7:00 pm — 8:30 pm	Santa Ana Senior Center, 424 W 3rd Street
September 22	9:30 am — 11:30 am	Public Library, 26 Civic Center Plaza



Be sure to
reserve your spot
now!



2018 Youth Water Poster Contest

Overflows

With More Than 400 Entries

The City of Santa Ana congratulates all students and Santa Ana Unified School District teachers who participated this year!

The winners of our 2018 Youth Water Poster Contest nailed this year's theme with their creative prose. Students throughout the City of Santa Ana were invited to participate and create their posters using the theme, "Fill It From The Tap!" to illustrate why drinking tap water over bottled water is safer, more affordable, and better for the environment.

Many focused on the environmental impact of bottled water, showing how plastic bottles end up polluting our oceans and landfills, with one cleverly titling her poster "Refills Not Landfills." Some highlighted the cost of bottled water, an average 2,200 times higher than tap water.

Others emphasized the high quality of Santa Ana's water and how it is subject to stricter safety regulations than bottled water.

More than 400 entries were submitted by students ranging in ages 5 to 18. A special congratulations to the following grand prize winners and finalists, whose posters were on display at City Hall for six weeks:

Ages 5-8

- Nayeli Luis-Martinez**, 8, grand prize winner
- Johann Bay**, 7, finalist
- Christalyn Mascareñas**, 8, finalist

Ages 9-12

- Briana Moreno**, 9, grand prize winner
- Matthew Bay**, 10, finalist
- Sarai Santiago**, 9, finalist



2018 Youth Water Poster Contest Winners





Ages 13-14

Deborah Sanchez, 13, grand prize winner
Elena Arechiga, 13, finalist
Stephanie Lopez, 13, finalist

Ages 15-18

Alberto Rodriguez, 17, grand prize winner
Monica Rodriguez, 15, finalist
Julisa Julian, 16, finalist

Major Miguel A. Pulido and the entire Santa Ana City Council celebrated these students and their families at a special awards ceremony last February.

“We congratulate the 12 outstanding young artists who won this year’s contest for their creative accomplishments,” said Councilman Vicente Sarmiento who presented a certificate to each winner. “And we thank Tram Le, Arts & Culture Specialist for the City of Santa Ana, Elizabeth Cardenas from Art for Change, and Alicia Rodriguez, COO of the Delhi Center—who served as this year’s judges—for all their hard work!”

Councilman Sarmiento, who is activity involved in the community and an avid supporter of outreach programs like the annual Youth Water Poster Contest, joined the winners and their families for a special reception hosted by the Water Resources Division. Everyone enjoyed food and

refreshments, music, special presentations, and cameo shots with the councilman. Winners were awarded their prizes, ranging from gift certificates and Nintendo 3DS XLs to iPads. A special drawing for a \$200 gift certificate from Art Supply Warehouse was held for teachers who actively encouraged student participation in the contest.

“The contest is an important educational initiative for the City, offering parents and their children the opportunity to explore various water-related themes such as the health benefits of drinking water, water conservation and water quality,” added Nabil Saba, Water Resources Manager for the City of Santa Ana. “We’d like to especially acknowledge the Santa Ana Unified School District, which, for the past three years, has supported our annual Youth Water Poster Contest and helped make this important educational initiative a success!”

Call for entries for the 2019 Youth Water Poster Contest begins this fall. Don’t miss the opportunity to let your creativity shine! For more information about the contest, email conserwater@santa-ana.org or call (714) 647-3500.



Building Inspection Request Line

714-667-2738

City Manager
714-647-5200

Fire Department
714-573-6000
(call 911 for emergencies)

Mayor and City Council
714-647-6900

Parks & Recreation
714-571-4200

Planning & Building, Planning Division
(Environmental Review, Historic Preservation
& New Development)
714-667-2700

Police Department
714-245-8665
(call 911 for emergencies)

Public Library
714-647-5250

Public Works Emergency Repairs
(after hours)
714-834-4211

Public Works Information
714-647-5690

Maintenance Services

Curb & Sidewalks
714-647-3380

Graffiti Removal
877-786-7824

Graffiti Task Force
714-245-8769 (Police Department)

Public Works

General Maintenance and Repairs
714-647-3380

Sanitation
714-647-3309

Shopping Cart Removal
714-667-2780

Street Lights
714-647-3505

Street Sweeping
714-647-3309

Trees
714-647-3330

Weed Abatement
714-647-3309



Useful Telephone Numbers



Water Resources

Sewer/Storm Drain Maintenance
714-647-3380

Water Administration
714-647-3320

Water & Sewer Permits
714-647-5026

Water Customer Service and Billing
714-647-5454

Water Engineering
714-647-3320

Water Maintenance & Construction
714-647-3346

Water Production
714-647-3382

Water Quality & Conservation
714-647-3320

Water Service & Main Location
714-647-3320

Refuse Collection

New Trash Cart/Order Dumpster
714-558-7761

Recycle Used Car Oil & Filter
714-558-7761

Traffic and Transportation

Signal Repairs - 8 a.m.-5 p.m. (Weekdays)
714-647-5620

Signal Repairs - Police Department
(Evenings/Weekends)
714-834-4211

Street Work Permits
714-647-5039

Traffic Operations
714-647-5619

Other Helpful Numbers

Bus Information
714-636-7433

Noise Complaints
714-834-4211

Overcrowding
714-667-2780

Poison Center
800-876-4766



2018 Berkeley Springs International Water Tasting
Berkeley Springs, WV

Best Municipal Water in the U.S.

City of Santa Ana, California

Award-Winning Water.



You can request a copy of the most recent summary of the Watershed Sanitary Surveys and the Source Water Assessment by calling MWD at 213-217-6000.

For a copy of the complete assessments for Santa Ana's distribution system and groundwater, call the Santa Ana Water Resources Division at 714-647-3320.

If you have questions about your water quality, contact:

City of Santa Ana, Water Resources Division

Nabil Saba P.E. Water Resources Manager

Cesar Barrera P.E. Principal Civil Engineer

Robert Hernandez Acting Water Services Quality Coordinator

220 South Daisy Avenue

Bldg A, Santa Ana, California 92703

phone: 714-647-3320 | fax: 714-647-3345

web: santaanaccr.org



Este informe contiene información muy importante sobre su agua potable.
Tradúzcalo o hable con alguien que lo entienda bien.

Chi tiet này thật quan trọng.
Xin nhờ người dịch cho quý vị.

Daimntawv tshaj tawm no muaj lus tseemceeb txog koj cov dej haus.
Tshab txhais nws, los yog tham nrog tej tug neeg uas totaub txog nws.

此份有关你的食水报告, 内有重要资料和信息, 请找
他人替你翻译及解释清楚。

Mahalaga ang impormasyong ito. Mangyaring ipasalin ito.