CITY OF SACRAMENTO DEPARTMENT OF UTILITIES

2016 WATER QUALITY REPORT

A Consumer Confidence Report for the Citizens of Sacramento

WATER EFFICIENCY

Water-use efficiency is a California way of life, and the City of Sacramento continues to encourage water conservation. Find tips to save water and available rebates at **SacWaterWise.com**

Congratulations! Your water meets or exceeds all federal and state drinking water standards.

TRADITION OF EXCELLENCE

Since its founding in 1849, the City of Sacramento has considered water quality of the utmost importance. This Consumer Confidence Report is presented to enhance your understanding of where your water comes from, what it contains, and to confirm that your drinking water continues to meet or exceed all state and federal drinking water standards.

The City of Sacramento, Department of Utilities is dedicated to providing our customers with dependable, high quality water, storm drainage and wastewater services in a fiscally and environmentally sustainable manner. In doing so, we work to conserve and preserve our water sources.

The City takes many steps to ensure high water quality including protecting our source waters, treating the water, operating our distribution system, maintaining facilities and addressing customer concerns. To actively protect water quality, management efforts on watershed, groundwater and water quality are performed.

TEAMWORK: TOGETHER WE CAN PROTECT OUR WATER RESOURCES

The City of Sacramento, Department of Utilities works hard to bring you quality drinking water. Please be careful as you live, work and play to limit what goes into the storm drains and rivers, so we can continue to preserve the quality of the water and our diverse river ecosystem.

City of SACRAMENTO
Department of Utilities

WATER QUALITY ANALYSIS RESULTS FOR 2016

Your water meets or exceeds all federal and state drinking water standards.

The following tables show the measured amount of constituents detected in 2016 or in the most recent year sampling was required. Although the City of Sacramento tests for more than 100 substances, this report only lists those detected at or above the federal or state level for reporting.

Key Terms and Abbreviations

µS/cm	**Microsiemens per centimeter;** measure of electrical conductivity.
90th Percentile	The value for which 90 percent of samples had a lower result.
AL	**Action Level:** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.
constituent	A chemical or parameter measured in the water supply.
DBP	**Disinfection By-Products:** Substances that can form during a reaction of a disinfectant with naturally present organic matter in the water.
MCL	**Maximum Contaminant Level:** The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHG (or MCLGs) 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 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.**
NTU	**Nephelometric Turbidity Units;** measures cloudiness of water.
oocysts/L	**oocysts per liter;** count of organisms.
pCi/L	**Picocuries per liter;** measures radiation.
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;** one ppb is like 3 seconds in 100 years.
ppm	**parts per million;** one ppm is like 32 seconds in one year.
ppt	**parts per trillion;** one ppt is like 3 seconds in 100,000 years.
TOC	**Total Organic Carbon;** a measurement of the potential of water to form DBPs.
TT	**Treatment Technique:** A required process intended to reduce the level of a contaminant in drinking water.

1 Regulated for Public Health - Primary MCL

Constituent	Units	Year Sampled	State or Federal Goal PHG	Highest Amount Allowed MCL	Surface Water Range	Surface Water Average	Groundwater Range	Groundwater Average	Typical Sources
Aluminum	ppm	2014 - 2016	0.6	1[a]	ND	ND	ND - 0.05	ND	Erosion of natural deposits; water treatment chemicals
Arsenic	ppb	2014 - 2016	0.004	10	ND	ND	2.2 - 6.5	3.0	Erosion of natural deposits
Barium	ppm	2014 - 2016	2	1	ND	ND	ND - 0.2	ND	Erosion of natural deposits
Control of DBP Precursors / TOC	ppm	2016	NA	TT	Requirement met		NA		Various natural and man-made sources
Fluoride in source water[b]	ppm	2016	1	2.0	ND	ND	ND - 0.2	0.1	Erosion of natural deposits
Gross Alpha[c]	pCi/L	2012 - 2016	0 (MCLG)	15	ND	ND	ND - 7.8	ND	Erosion of natural deposits
Hexavalent Chromium	ppb	2014 - 2016	0.02	10	ND	ND	ND - 11[d]	5.2	Erosion of natural deposits; industrial wastes
Nitrate (as Nitrogen)	ppm	2016	10	10	ND	ND	ND - 3.4	1.5	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Turbidity	NTU	2016	NA	1 (TT)	0.14[e]		NA	NA	Soil runoff
				Mininum 95% of samples <0.3	100%[f]		NA	NA	

Constituent	Units	Year Sampled	State or Federal Goal PHG	Highest Amount Allowed MCL	Distribution System Range	Distribution System Average	Typical Sources
Chlorine	ppm	2016	4 (MRDLG)	4.0 (MRDL)	ND[g] - 1.2	0.5	Drinking water disinfectant added for treatment
Fluoride[b]	ppm	2016	1	2.0	ND - 0.9	0.7	Water additive that promotes strong teeth
Haloacetic Acids	ppb	2016	NA	60	4 - 58[h]	42[i]	By-product of drinking water disinfection
Total Coliform Bacteria	% samples positive	2016	0 (MCLG)	5.0%	2.3%[j]		Naturally present in the environment
Trihalomethanes	ppb	2016	NA	80	12 - 80[h]	73[i]	By-product of drinking water disinfection

Constituent	Units	Year Sampled	State or Federal Goal PHG	Action Level	# Of Samples Collected	90th Percentile Level	# Of Sites Exceeding AL	Typical Sources
Lead	ppb	2014	0.2	15	53	ND	0	Internal corrosion of household water plumbing systems; discharge from industrial manufacturing; erosion of natural deposits
Copper	ppm	2014	0.3	1.3	53	ND	0	Internal corrosion of household water plumbing systems; erosion of natural deposits; leaching from wood preservatives

NOTES: (a) Aluminum is also regulated by a secondary MCL of 0.2 ppm. (b) In accordance with State law, the City of Sacramento adjusts the natural levels of fluoride in our water supplies to the optimal level determined by the Centers for Disease Control. More information about fluoridation is available at: http://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/Fluoridation.shtml (c) Gross alpha is used as a general indicator for the presence of radiological constituents. The gross alpha result for one well was just over half the MCL. As required, the well was then tested for uranium and the result was 4 pCi/L, which is less than the uranium MCL of 20 pCi/L. (d) A single result of 11 ppb was measured on one well during 2016. Ultimately the well was sampled for hexavalent chromium 17 times during the year, with an average result of 6.4 ppb and there were no additional results above the MCL. This indicates that the well is in compliance with the MCL and that the single high result was an anomaly. (e) Value given is the highest individual value measured during 2016. (f) Value given is the lowest monthly percent compliance achieved during 2016. (g) Distribution samples with no detectable chlorine residual undergo further analysis to ensure compliance with microbiological water quality regulations. (h) Range is based on all individual sample values from 2016. (i) Average given is maximum of all locational running annual averages calculated during 2016. (j) Value given is the maximum % positive of any month during 2016.

2 Regulated for Drinking Water Aesthetics - Secondary MCL

Constituent	Units	Year Sampled[a]	State or Federal Goal PHG	Highest Amount Allowed MCL	Water Treatment Plants Range	Water Treatment Plants Average	Wells Range	Wells Average	Typical Sources
Chloride	ppm	2014 - 2016	NA	500	ND	ND	17 - 66	38	Erosion or leaching of natural deposits
Manganese	ppb	2014 - 2016	NA	50	ND	ND	ND - 29	ND	Leaching from natural deposits
Specific Conductance	µS/cm	2014 - 2016	NA	1600	96 - 160	126	290 - 691	408	Substances that form ions when in water
Sulfate	ppm	2014 - 2016	NA	500	7.2 - 11	9.2	4.4 - 31	11	Erosion or leaching of natural deposits
Total Dissolved Solids	ppm	2014 - 2016	NA	1000	65 - 99	82	198 - 430	292	Erosion or leaching of natural deposits

Constituent	Units	Year Sampled	State or Federal Goal PHG	Highest Amount Allowed MCL	Distribution System Range	Distribution System Average	Typical Sources
Color	color units	2016	NA	15	1 - 1	1	Naturally occurring organic materials
Turbidity	NTU	2016	NA	5	0.06 - 0.60	0.12	Soil runoff

3 Constituents With No Established MCL

Unregulated constituent monitoring helps determine where certain water constituents occur and whether they should be regulated

Constituent	Units	Year Sampled	Surface Water		Groundwater		Distribution System	
			Range	Average	Range	Average	Range	Average
Androstene	ppb	2014	ND - 0.00034	ND	ND	ND	NA	NA
Chlorate	ppb	2014	ND	ND	ND	ND	ND - 61	ND
1,4-Dioxane	ppb	2014	ND	ND	ND - 0.2	ND	NA	NA
Molybdenum	ppb	2014 - 2015	ND	ND	ND	ND	ND - 1	ND
Strontium	ppb	2014 - 2015	48 - 130	76	180 - 430	273	48 - 370	192
Testosterone	ppb	2014	ND - 0.00026	ND	ND	ND	NA	NA
Vanadium	ppb	2014 - 2015	0.4 - 3	1.4	15 - 41	25	0.4 - 38	14

4 Other Parameters of Interest to Customers

Constituent	Units	Year Sampled[a]	Surface Water		Ground Water	
			Range	Average	Range	Average
Alkalinity	ppm	2016	22 - 66	44	90 - 220	137
Bicarbonate as HCO3	ppm	2014 - 2016	27 - 80	54	110 - 268	162
Calcium	ppm	2014 - 2016	9.9 - 13	11	14 - 49	26
Hardness	ppm	2014 - 2016	40 - 62	51	86 - 260	147
Magnesium	ppm	2014 - 2016	1.5 - 3.5	2.5	7.5 - 37	18
Sodium	ppm	2014 - 2016	2.1 - 4.1	3.1	18 - 36	25

WATER QUALITY REGULATIONS

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 (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.

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 it 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, 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 by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural applications and septic systems.

Radioactive contaminants, that can be naturally-occurring or be the result of oil and gas production and mining activities.

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 at 1-800-426-4791.

SACRAMENTO'S WATER SOURCE ASSESSMENT

The City of Sacramento has two independent water sources. Our primary water source is river water from the American and Sacramento Rivers, which provides 79 percent of our water supply. Groundwater provides the remaining 21 percent. Assessments of potential contaminating activities for the City's Sacramento River and American River water sources were completed in 2000 and 2001, and most recently updated in 2015 and 2013 respectively. These reports indicated that both rivers are most vulnerable to contaminants from recreational activities and that the Sacramento River is also most susceptible to agricultural contaminants. The City of Sacramento, along with several other water utilities, updates assessments of the river water sources every five years.

An assessment of the City's groundwater wells was completed in December 2002. Due to the proximity to potential contaminant sources, the wells north of the American River are considered most vulnerable to sewage collection systems, leaking underground storage tanks, known contaminant plumes, agricultural drainage, gas stations, dry cleaners, metal plating and chemical processing storage facilities, electrical/electronic manufacturing, and automobile repair and body shops. Wells south of the American River are considered vulnerable to leaking underground storage tanks and sewage collection systems.

Copies of the complete assessments are available for review at the City of Sacramento, Department of Utilities, 1395 35th Avenue, or call 916-808-5454 to request a summary of the assessments.

WHAT YOU SHOULD KNOW ABOUT ARSENIC

While your drinking water meets the federal and state standard for arsenic, it does contain low levels of arsenic. The arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. The U.S. Environmental Protection Agency continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

WHAT YOU SHOULD KNOW ABOUT 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. City of Sacramento, Department of Utilities 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 can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for cooking or drinking. 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 USEPA's Safe Drinking Water Hotline 1-800-426-4791 or at http://www.epa.gov/lead/.

POPULATIONS WITH LOW RESISTANCE

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 USEPA's Safe Drinking Water Hotline at 1-800-426-4791.

CRYPTOSPORIDIUM

Cryptosporidium is a microbial pathogen found in surface water throughout the U.S. Although filtration removes cryptosporidium, the most commonly-used filtration methods cannot guarantee 100-percent removal. 2015-2016 monitoring indicated the presence of these organisms in one out of forty-two samples of our source water. The City's treatment process ensures that the 2-log removal treatment technique MCL required by regulation is met. Current test methods do not allow us to determine if the organisms are dead or if they are capable of causing disease. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks; however, immuno-compromised people, infants and small children, and the elderly are at greater risk of developing life-threatening illness. We encourage immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection. Cryptosporidium must be ingested to cause disease, and it may be spread through means other than drinking water.

CYANOBACTERIA

Cyanobacteria, common to freshwater ecosystems, can under certain conditions form scum or "blooms" at the surface of a water body. These blooms are capable of producing compounds, some of which can be harmful to human health and others which affect the taste and odor of drinking water. While none of these compounds are presently regulated in drinking water, the City of Sacramento did voluntarily monitor for several of them during 2016.

Microcystins and cylindrospermopsin, which were subject to USEPA Health Advisories, were monitored throughout 2016 but were not detected. Geosmin and 2-Methylisoborneol (MIB) are considered an aesthetic issue; they can give water an earthy, musty taste, even at very low levels and are not removed by conventional treatment processes. Geosmin levels ranged between non-detect and 12 parts per trillion while MIB results ranged between non-detect and 22 parts per trillion in our source water.

City of
SACRAMENTO
Department of Utilities

For water quality questions or to report a concern

City of Sacramento, Department of Utilities
311 or 916-264-5011
(24 hours a day, 7 days a week)
www.cityofsacramento.org/utilities

Additional water quality information is available

USEPA Safe Drinking Water Hotline
1-800-426-4791
http://epa.gov/ground-water-and-drinking-water

Notice of opportunity for public participation

The Sacramento City Council holds public meetings most Tuesdays at 6 p.m. in the City Council Chambers at 915 I Street, Sacramento. You can access Council agendas at www.cityofsacramento.org/clerk.

本報告有關於您的飲用水的重要資料。請找人為您翻譯，或與能明白該報告的人交談。

Phúc trình này có các chi tiết quan trọng về nước uống của quý vị. Hãy nhờ người dịch cho quý vị, hoặc hỏi người nào hiểu rõ các chi tiết này.

Este informe contiene información importante sobre el agua que usted bebe. Pida a alguien que se lo traduzca o hable con alguien que lo entienda.

ລາຍງານນີ້ມີຂໍ້ມູນສຳຄັນກ່ຽວກັບນ້ຳປະປາຂອງທ່ານ. ຈົ່ງໃຫ້ຄົນອື່ນແປຄວາມໃຫ້ທ່ານ, ຫລືໃຫ້ປຶກສາກັບຄົນໃດຄົນໜຶ່ງທີ່ເຂົ້າໃຈເລື່ອງ.

この報告書には私達の飲料水に関する重要な情報が記載されています。貴方のために翻訳してくれる人、あるいは内容を理解し説明してくれる人を見つけてください。

Tsab ntawv (report) no muaj cov kev qhia tseemceeb txog koj cov dej haus. Thov ib tus tibneeg pab txhais rau koj lossis nrog tej tus tibneeg uas totaub txog tsab ntawv no tham.

Ang report na ito ay naglalaman ng mahalagang impormasyon tungkol sa tubig na inyong iniinum. Magpatulong sa taong maaring magsalin, o makipag-usap sa taong nakakaunawa nito.

Данный рапорт содержит важную информацию о вашей питьевой воде. Переведите его или проконсультируйтесь с тем, кто его понимает.

CITY OF SACRAMENTO · FOUNDED IN 1849

CALL 916-264-5011

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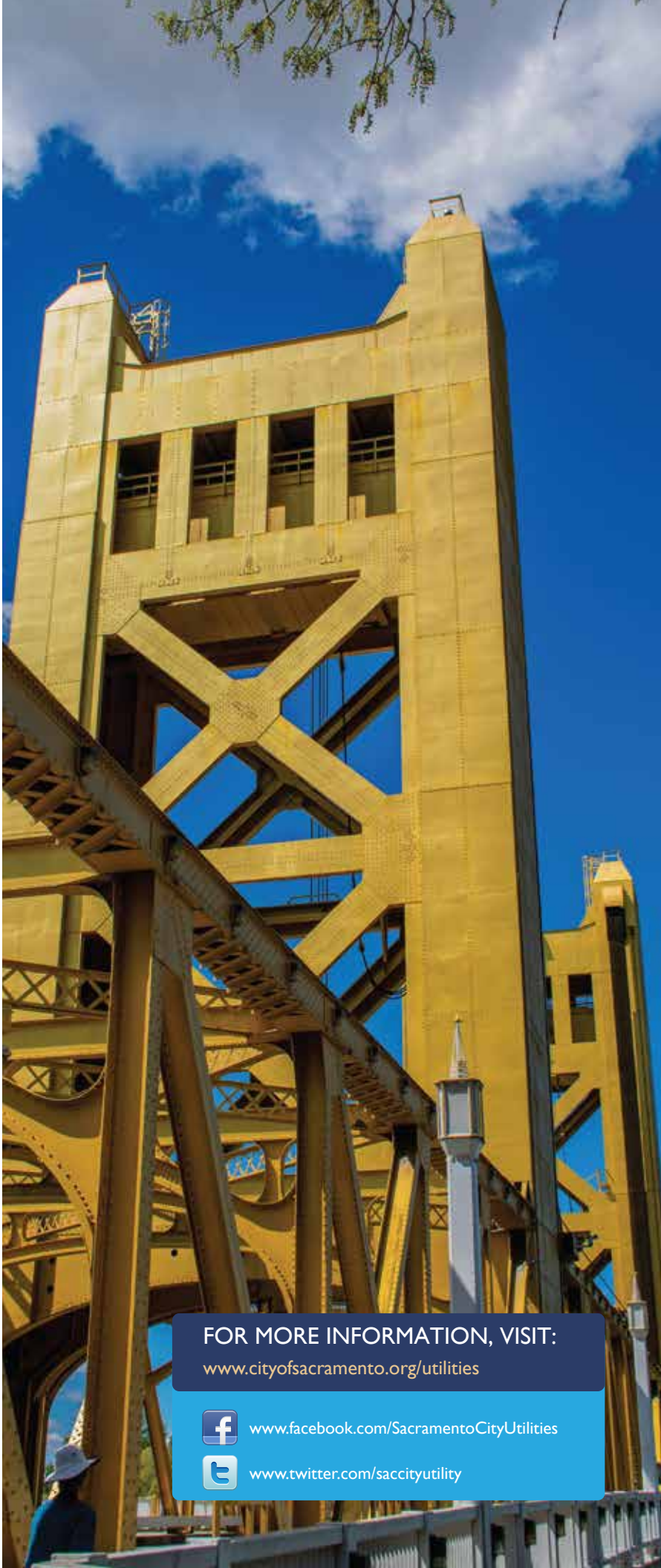

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