SUBJECT: Public Hearing, Discussion and Possible Action to Review and Receive Comments on *City of Sunnyvale Public Health Goal Report (City’s Water System)* Prepared for the California Department of Health Services With Recommendation of No Further Action Required.

BACKGROUND
Section 116470(b) of the California Health and Safety Code (included in Attachment A) requires the preparation of a “Public Health Goal (PHG) Report” every three years if water quality monitoring results over the previous three calendar years indicate levels that exceed any California Public Health Goals (PHGs) and/or federal Maximum Contaminant Level Goals (MCLGs). The attached PHG report (Attachment A) covers the period of calendar years 2010-2012, and has been filed with the California Department of Public Health (CDPH).

State law (the California Health and Safety Code) does not require any action to be taken for mitigating contaminant levels that exceed the PHG but are lower than the Maximum Contaminant Level (MCL) set by the State of California or the US Environmental Protection Agency (USEPA). Review of the report and comments received on the report are for information and recommendation purposes only.

EXISTING POLICY
Goal EM-4 Adequate Water Quality: Ensure that all water meets state & federal standards for aesthetics, quality and health.

DISCUSSION
The report explains that PHGs are non-enforceable goals established by the California Environmental Protection Agency’s Office of Environmental Health Hazard Assessment (OEHHA). MCLGs are goals that are adopted by USEPA, and only come into play if there are no California PHGs. PHGs may not be more lenient that MCLGs.

The report was prepared by HydroScience Engineers, Inc., a consultant employed by the City. Using an outside consultant helps to maintain objectivity in the analysis and preparation of the report.
During the three year period covered by the report there were no contaminants found in the water at a level higher than a California PHG, and only one contaminant that was detected in excess of a federal MCLG. The one contaminant found was coliform bacteria, a non-harmful constituent, in excess of the MCLG level of zero. Details about this result are included in the report, as well as the recommendation that no further steps be taken at this time.

**FISCAL IMPACT**
There is no fiscal impact in the review and consideration of the information included in the attached report, and there are no recommended actions that would require monetary expenditure.

**PUBLIC CONTACT**
Public contact was made by posting the Council agenda on the City's official-notice bulletin board outside City Hall, at the Sunnyvale Senior Center, Community Center and Department of Public Safety; and by making the agenda and report available at the Sunnyvale Public Library, the Office of the City Clerk and on the City's Web site.
ALTERNATIVES

1. Accept and respond to public comments on Sunnyvale’s 2013 Public Health Goals Report, approve the report, and direct staff to file with the California Department of Public Health.

2. Request additional follow-up information from the Environmental Services Department, in regards to information in the PHG report, and/or questions or issues raised during the public hearing.

RECOMMENDATION
Staff recommends Alternative #1: 1. Accept and respond to public comments on Sunnyvale’s 2013 Public Health Goals Report, approve the report, and direct staff to file with the California Department of Public Health.

Reviewed by:

[Signature]
John Stufflebean, Director, Environmental Services Department
Prepared by: Mansour Nasser, Water & Sewer Systems Division Manager

Approved by:

[Signature]
Gary M. Luebbers
City Manager

Attachments
A. City of Sunnyvale Public Health Goals Report
BACKGROUND

The California Health and Safety Code, section 116470(b) (see Attachment 1) requires public water systems serving more than 10,000 service connections to prepare a report by July 1, 2013 if water quality monitoring results over the past three years exceed any California Public Health Goals (PHGs) and/or federal Maximum Contaminant Level Goals (MCLGs). PHGs are non-enforceable goals established by the California Environmental Protection Agency’s Office of Environmental Health Hazard Assessment (OEHHA). MCLGs are goals that are adopted by USEPA, and only come into play if there is no California PHG. PHGs may not be more lenient than MCLGs.

Only constituents that have a California primary drinking water standard and for which either a PHG or MCLG has been set are to be addressed in the Report. Attachment 2 contains a list of the regulated constituents and their respective PHGs or MCLGs. Total coliform was the only constituent which minimally exceeded the MCLG, but still well below any action level. There is no PHG for total coliform.

If a constituent was detected by a water supplier between January 1, 2010 and December 31, 2012 at a level exceeding an applicable PHG or MCLG, the Report shall contain information required by the law. The required information includes:

- Numerical public health risk associated with the enforced Maximum Contaminant Level (MCL) and the PHG or MCLG;
- Category or type of risk to health that could be associated with each constituent;
- Best treatment technology available, if any, that could be used to remove or reduce the constituent to a level at or below the PHG; and
- Estimate of the cost to install that treatment and if it is appropriate and feasible, and
- Description of the actions, if any, the City intends to take to reduce the level of the constituent.

PHG/MCLG vs. MCL

PHGs are set by OEHHA (and MCLGs by USEPA) based solely on public health risk considerations. MCLs are set by USEPA or the California Department of Public Health (CDPH) as the contaminants maximum level which public water systems must not exceed. Violations of MCLs can result in fines, abatement orders, or closure of facilities. When the USEPA, or the CDPH, adopts an MCL, they take into account such factors as (1) analytical methodologies, (2) effectiveness of available treatment technologies, and (3) health benefits versus costs. PHGs (and MCLGs) are not enforceable and are not required to be met by any public water system.

Water Quality Data Review for this Report

Water quality data collected by the City of Sunnyvale during the calendar years of 2010, 2011 and 2012 for purposes of determining compliance with drinking water standards were reviewed in order to prepare this Report. This data was summarized in our 2010, 2011 and 2012 Annual Water Quality Reports, also known as Consumer Confidence Reports, which were distributed to all of our customers by July of the following year and is typically included in the summer issue of
the City’s Quarterly Report (see Attachment 3 for copies of the 2010, 2011, and 2012 City of Sunnyvale Consumer Confidence Reports).

Guidelines Followed for Preparation of this Report

The Association of California Water Agencies (ACWA) formed a workgroup which prepared guidelines for water utilities to use in preparing required PHG Reports. These guidelines, titled “Suggested Guidelines for Preparation of Required Reports on PUBLIC HEALTH GOALS (PHGs) to satisfy requirements of California Health and Safety Code Section 116470(b)” were used in the preparation of this Report.

Best Available Treatment Technology and Cost Estimates

Both USEPA and CDPH adopt Best Available Technologies (BATs), which are the best known methods of reducing contaminant levels below the MCL. This report also considers other commercially available BATs that may have the ability to further reduce constituent levels beyond the MCL to the PHG/MCLG level or below. While a BAT may identify a process that can reduce the presence of a constituent, the cost of implementation can be a major factor in deciding whether or not to adopt the process. For a system that is in compliance with MCL levels, striving to keep constituents below PHG/MCLG levels must be evaluated with costs in mind.

Costs were estimated for the implementation of BATs for each constituent exceeding PHGs or MCLGs. The PHGs/MCLGs are set much lower than the MCL, and it is not always possible or feasible to determine what treatment technology is able to further reduce a constituent to a level at or below the PHG/MCLG. In some cases, such as when the MCLG is set at zero, there may not be commercially available technology to reach that level. The issue is further complicated because it is often not possible to verify by analytical means that the constituent has been totally eliminated, as some laboratory analyses can detect constituents down to a CDPH approved level with certainty and are unable to definitively identify the constituent at lower levels. In some cases, installing treatment to try and further reduce very low levels of one constituent may have adverse effects on other aspects of water quality. This report presents the required cost estimates to implement the BATs to reduce the constituent to a level at or below the PHG/MCLG.

CONSTITUENTS DETECTED THAT EXCEED A PHG OR AN MCLG

In reviewing water quality monitoring data collected during 2010, 2011 and 2012, City of Sunnyvale staff have concluded that a PHG Report is required that addresses coliform bacteria.

The following section presents a discussion of the constituent that was detected in the drinking water distribution system at levels above the MCLG.

Coliform Bacteria

In 1989 EPA developed the Total Coliform Rule. The MCL for total coliforms is five percent (5%) positive samples of all samples collected in each month. The MCLG is zero (there is no PHG for coliform bacteria).

The reason for the coliform standard is to minimize the possibility for drinking water to contain pathogens. Pathogens are microorganisms that can cause disease if ingested. Coliform bacteria is an indicator organism that is not generally considered harmful, but is used to identify
the potential presence of pathogens in the water. It is not unusual for a system to have an occasional positive sample. A positive sample serves as a trigger to prompt further investigation into the presence of other organisms, requiring additional sampling to be done immediately after it is discovered.

The monitoring of a non-harmful constituent (coliform bacteria) to indicate the possible presence of harmful pathogens makes for an inexact, but generally conservative process. Therefore, it is not possible to state a specific numerical health risk associated with a given level of coliform bacteria. EPA normally sets MCLGs “at a level where no known or anticipated adverse effects on persons would occur.” When EPA published the final Total Coliform Rule they stated that it was not possible to determine such a level with coliform sampling. The absence of coliform bacteria is therefore the goal, and when that goal is not achieved, follow-up testing verifies whether an actual pathogen is present.

Best Available Technology Identified in the Total Coliform Rule

CDPH identifies the best available technologies to meet the total coliform MCL in Title 22 of the California Code of Regulations Section 64447, which are as follows:

1. Protection of wells from coliform contamination by appropriate placement and construction;
2. Maintenance of a disinfectant residual throughout the distribution system;
3. Proper maintenance of the distribution system including appropriate pipe replacement and repair procedures, main flushing programs, proper operation and maintenance of storage tanks and reservoirs, and continual maintenance of positive water pressure in all parts of the distribution system;
4. Filtration and/or disinfection of surface water as described in Subpart H, or disinfection of ground water using strong oxidants such as chlorine, chlorine dioxide, or ozone; or
5. The development and implementation of an EPA-approved State Wellhead Protection Program under section 1428 of the Safe Drinking Water Act.

The City of Sunnyvale has implemented all of the above actions or processes, or obtains water from suppliers who implement these processes (such as filtration and chloramination). There is one method that may further reduce or eliminate the presence of total coliform, which is to increase the amount of disinfectant residual in the distribution system; however, the tradeoff includes the increased potential for the presence of cancer-causing disinfection byproducts. In the interest of protecting the public’s health, the City would prefer to continue to implement the current technologies and monitoring and maintenance program. As such, there is no estimated cost associated with additional treatment to reduce the incidence of coliform bacteria.

Sunnyvale Total Coliform Rule Monitoring Results

Each month the City collects at least 140 samples from sites located throughout the distribution system that are analyzed for the presence of coliform bacteria. If a positive coliform sample is found, follow-up sampling is done for more specific indicators of bacterial contamination.

Over the last three years, the monthly average of positive samples for coliform bacteria ranged from 0% to 0.71%. All instances where a positive coliform sample was initially found, follow-up samples were negative for E. coli bacteria. The data indicated that these were isolated incidents, and the quality of the water in the distribution system was never compromised.
The City of Sunnyvale works closely with our regional water suppliers, the Santa Clara Valley Water District (SCVWD) and the San Francisco Public Utilities Commission (SFPUC). Both SCVWD and SFPUC provide water with a chloramine residual in accordance with the Total Coliform Rule.

Other measures and programs that the City implements to protect the microbiological quality of the drinking water served include:

- flushing of all distribution system dead-ends every year;
- flushing of all hydrants every two years;
- implementation of a cross-connection control program;
- monitoring of a disinfectant residual throughout the distribution system;
- ongoing microbiological monitoring and surveillance program of all groundwater sources and the distribution system;
- implementation of a tank cleaning program every five years; and
- maintenance of positive pressures throughout the distribution system at all times.

As stated above, monitoring for coliform bacteria to indicate the possible presence of harmful pathogens is a conservative, yet inexact process. As such, there is no specific numerical correlation to health risk. However, the City has implemented a vigilant monitoring and maintenance program that is intended to meet the requirements of the Total Coliform Rule and protect public health.

No additional actions are recommended at this time for coliform bacteria.

**SUMMARY AND CONCLUSION**

The drinking water for the City of Sunnyvale meets all standards established by CDPH and USEPA to protect public health. No additional treatment is recommended in an effort to decrease the incidence of total coliform in system water testing. The level of total coliform detected is well below the MCL, and elimination may be impossible. Therefore, no additional actions are proposed at this time for coliform bacteria. The City and its water suppliers will continue to implement the BATs as well as the monitoring and maintenance program.

**Attachments:**

1. Excerpt from California Health & Safety Code: Section 116470 (b)
2. Table of Regulated Constituents with MCLs, PHGs or MCLGs
ATTACHMENT No. 1

CALIFORNIA HEALTH AND SAFETY CODE

Section §116470. Public Health Goal Report

(b) On or before July 1, 1998, and every three years thereafter, public water systems serving more than 10,000 service connections that detect one or more contaminants in drinking water that exceed the applicable public health goal, shall prepare a brief written report in plain language that does all of the following:

(1) Identifies each contaminant detected in drinking water that exceeds the applicable public health goal.

(2) Discloses the numerical public health risk, determined by the office, associated with the maximum contaminant level for each contaminant identified in paragraph (1) and the numerical public health risk determined by the office associated with the public health goal for that contaminant.

(3) Identifies the category of risk to public health, including, but not limited to, carcinogenic, mutagenic, teratogenic, and acute toxicity, associated with exposure to the contaminant in drinking water, and includes a brief plainly worded description of these terms.

(4) Describes the best available technology, if any is then available on a commercial basis, to remove the contaminant or reduce the concentration of the contaminant. The public water system may, solely at its own discretion, briefly describe actions that have been taken on its own, or by other entities, to prevent the introduction of the contaminant into drinking water supplies.

(5) Estimates the aggregate cost and the cost per customer of utilizing the technology described in paragraph (4), if any, to reduce the concentration of that contaminant in drinking water to a level at or below the public health goal.

(6) Briefly describes what action, if any, the local water purveyor intends to take to reduce the concentration of the contaminant in public drinking water supplies and the basis for that decision.
ATTACHMENT No. 2

MCLs, DLRs and PHGs for Regulated Drinking Water Contaminants

Last Update: February 12, 2013

Prepared and provided by the Association of California Water Agencies (ACWA).
## 2013 PHG Triennial Report: Calendar Years 2010-2011-2012

MCLs, DLRs, and PHGs for Regulated Drinking Water Contaminants
(Units are in milligrams per liter (mg/L), unless otherwise noted.)

Last Update: February 12, 2013
(Reference: http://www.cdph.ca.gov/ertl/drinkwater/Pages/MCLsandPHGs.aspx)

This table includes:
- CDPH's maximum contaminant levels (MCLs)
- CDPH's detection limits for purposes of reporting (DLRs)
- Public health goals (PHGs) from the Office of Environmental Health Hazard Assessment (OEHHA)
- PHGs for NDMA and 1,2,3-Trichloropropane (1,2,3-TCP is unregulated) are at the bottom of this table
- The federal MCLG for chemicals without a PHG, microbial contaminants, and the DLR for 1,2,3-TCP

<table>
<thead>
<tr>
<th>Constituent</th>
<th>MCL</th>
<th>DLR</th>
<th>PHG or (MCLG)</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>\textit{Chemicals with MCLs in 22 CCR §64431—Inorganic Chemicals}</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aluminum</td>
<td>1</td>
<td>0.05</td>
<td>0.6</td>
<td>2001</td>
</tr>
<tr>
<td>Antimony</td>
<td>0.006</td>
<td>0.006</td>
<td>0.02</td>
<td>1997</td>
</tr>
<tr>
<td>Arsenic</td>
<td>0.010</td>
<td>0.002</td>
<td>0.000004</td>
<td>2004</td>
</tr>
<tr>
<td>Asbestos (MFL = million fibers per liter; for fibers &gt;10 microns long)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>7 MFL</td>
<td>0.2 MFL</td>
<td>7 MFL</td>
<td>2003</td>
</tr>
<tr>
<td>Beryllium</td>
<td>1</td>
<td>0.1</td>
<td>2</td>
<td>2003</td>
</tr>
<tr>
<td>Cadmium</td>
<td>0.004</td>
<td>0.001</td>
<td>0.001</td>
<td>2003</td>
</tr>
<tr>
<td>Chromium, Total - OEHHA withdrew the 1999 0.0025 mg/L PHG in Nov 2001</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chromium, Hexavalent (Chromium-6) - MCL to be established - currently regulated under the total chromium MCL</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cyanide</td>
<td>0.15</td>
<td>0.1</td>
<td>0.15</td>
<td>1997</td>
</tr>
<tr>
<td>Fluoride</td>
<td>2</td>
<td>0.1</td>
<td>1</td>
<td>1997</td>
</tr>
<tr>
<td>Mercury (inorganic)</td>
<td>0.002</td>
<td>0.001</td>
<td>0.0012</td>
<td>1999 (rev2005)*</td>
</tr>
<tr>
<td>Nickel</td>
<td>0.1</td>
<td>0.01</td>
<td>0.012</td>
<td>2001</td>
</tr>
<tr>
<td>Nitrate (as NO3)</td>
<td>45</td>
<td>2</td>
<td>45</td>
<td>1997</td>
</tr>
<tr>
<td>Nitrite (as N)</td>
<td>1 as N</td>
<td>0.4</td>
<td>1 as N</td>
<td>1997</td>
</tr>
<tr>
<td>Nitrate + Nitrite</td>
<td>10 as N</td>
<td>0.4</td>
<td>10 as N</td>
<td>1997</td>
</tr>
<tr>
<td>Perchlorate</td>
<td>0.006</td>
<td>0.004</td>
<td>0.006</td>
<td>2004</td>
</tr>
<tr>
<td>Selenium</td>
<td>0.05</td>
<td>0.005</td>
<td>0.03</td>
<td>2010</td>
</tr>
<tr>
<td>Thallium</td>
<td>0.002</td>
<td>0.001</td>
<td>0.0001</td>
<td>1999 (rev2004)</td>
</tr>
</tbody>
</table>

\textit{Copper and Lead, 22 CCR §64672.3}

Values referred to as MCLs for lead and copper are not actually MCLs; instead, they are called "Action Levels" under the lead and copper rule.

<table>
<thead>
<tr>
<th>Constituent</th>
<th>MCL</th>
<th>DLR</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Copper</td>
<td>1.3</td>
<td>0.05</td>
<td>0.3</td>
</tr>
<tr>
<td>Lead</td>
<td>0.015</td>
<td>0.005</td>
<td>0.0002</td>
</tr>
</tbody>
</table>
**ATTACHMENT No. 2**

### Radionuclides with MCLs in 22 CCR §64441 and §64443—Radioactivity

[units are picocuries per liter (pCi/L), unless otherwise stated; n/a = not applicable]

<table>
<thead>
<tr>
<th>Constituent</th>
<th>MCL</th>
<th>DLR</th>
<th>PHG or MCLG</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gross alpha particle activity - OEHHA concluded in 2003 that a PHG was not practical</td>
<td>15</td>
<td>3</td>
<td>(zero)</td>
<td>n/a</td>
</tr>
<tr>
<td>Gross beta particle activity - OEHHA concluded in 2003 that a PHG was not practical</td>
<td>4 mrem/yr</td>
<td>4</td>
<td>(zero)</td>
<td>n/a</td>
</tr>
<tr>
<td>Radium-226</td>
<td>--</td>
<td>1</td>
<td>0.05</td>
<td>2006</td>
</tr>
<tr>
<td>Radium-228</td>
<td>--</td>
<td>1</td>
<td>0.019</td>
<td>2006</td>
</tr>
<tr>
<td>Radium-226 + Radium-228</td>
<td>5</td>
<td>--</td>
<td>(zero)</td>
<td>--</td>
</tr>
<tr>
<td>Strontium-90</td>
<td>8</td>
<td>2</td>
<td>0.35</td>
<td>2006</td>
</tr>
<tr>
<td>Tritium</td>
<td>20,000</td>
<td>1,000</td>
<td>400</td>
<td>2006</td>
</tr>
<tr>
<td>Uranium</td>
<td>20</td>
<td>1</td>
<td>0.43</td>
<td>2001</td>
</tr>
</tbody>
</table>

### Chemicals with MCLs in 22 CCR §64444—Organic Chemicals

#### (a) Volatile Organic Chemicals (VOCs)

<table>
<thead>
<tr>
<th>Constituent</th>
<th>VOC MCL</th>
<th>VOC DLR</th>
<th>VOC PHG</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>0.001</td>
<td>0.0005</td>
<td>0.00015</td>
<td>2001</td>
</tr>
<tr>
<td>Carbon tetrachloride</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.0001</td>
<td>2000</td>
</tr>
<tr>
<td>1,2-Dichlorobenzene</td>
<td>0.6</td>
<td>0.0005</td>
<td>0.6</td>
<td>1997 (rev2009)</td>
</tr>
<tr>
<td>1,4-Dichlorobenzene (p-DCB)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.006</td>
<td>1997</td>
</tr>
<tr>
<td>1,1-Dichloroethane (1,1-DCA)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.003</td>
<td>2003</td>
</tr>
<tr>
<td>1,2-Dichloroethane (1,2-DCA)</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.0004</td>
<td>1999 (rev2005)</td>
</tr>
<tr>
<td>1,1-Dichloroethylene (1,1-DCE)</td>
<td>0.006</td>
<td>0.0005</td>
<td>0.01</td>
<td>1999</td>
</tr>
<tr>
<td>cis-1,2-Dichloroethylene</td>
<td>0.006</td>
<td>0.0005</td>
<td>0.1</td>
<td>2006</td>
</tr>
<tr>
<td>trans-1,2-Dichloroethylene</td>
<td>0.01</td>
<td>0.0005</td>
<td>0.06</td>
<td>2006</td>
</tr>
<tr>
<td>Dichloromethane (Methylene chloride)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.004</td>
<td>2000</td>
</tr>
<tr>
<td>1,2-Dichloropropane</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.0005</td>
<td>1999</td>
</tr>
<tr>
<td>1,3-Dichloropropene</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.0002</td>
<td>1999 (rev2006)</td>
</tr>
<tr>
<td>Ethylbenzene</td>
<td>0.3</td>
<td>0.0005</td>
<td>0.3</td>
<td>1997</td>
</tr>
<tr>
<td>Methyl tertiary butyl ether (MTBE)</td>
<td>0.013</td>
<td>0.003</td>
<td>0.013</td>
<td>1999</td>
</tr>
<tr>
<td>Monochlorobenzene</td>
<td>0.07</td>
<td>0.0005</td>
<td>0.2</td>
<td>2003</td>
</tr>
<tr>
<td>Styrene</td>
<td>0.1</td>
<td>0.0005</td>
<td>0.0005</td>
<td>2010</td>
</tr>
<tr>
<td>1,1,2,2-Tetrachloroethane</td>
<td>0.001</td>
<td>0.0005</td>
<td>0.0001</td>
<td>2003</td>
</tr>
<tr>
<td>Tetrachloroethylene (PCE)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.00006</td>
<td>2001</td>
</tr>
<tr>
<td>Toluene</td>
<td>0.15</td>
<td>0.0005</td>
<td>0.15</td>
<td>1999</td>
</tr>
<tr>
<td>1,2,4-Trichlorobenzene</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.005</td>
<td>1999</td>
</tr>
<tr>
<td>1,1,1-Trichloroethane (1,1,1-TCA)</td>
<td>0.2</td>
<td>0.0005</td>
<td>1</td>
<td>2006</td>
</tr>
<tr>
<td>1,1,2-Trichloroethane (1,1,2-TCA)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.0003</td>
<td>2006</td>
</tr>
<tr>
<td>Trichloroethylene (TCE)</td>
<td>0.005</td>
<td>0.0005</td>
<td>0.0017</td>
<td>2009</td>
</tr>
<tr>
<td>Trichlorofluoromethane (Freon 11)</td>
<td>0.15</td>
<td>0.005</td>
<td>0.7</td>
<td>1997</td>
</tr>
<tr>
<td>1,1,2-Trichloro-1,2,2-Trifluorothane (Freon 113)</td>
<td>1.2</td>
<td>0.01</td>
<td>4</td>
<td>1997 (rev2011)</td>
</tr>
<tr>
<td>Vinyl chloride</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.00005</td>
<td>2000</td>
</tr>
<tr>
<td>Xylenes</td>
<td>1.75</td>
<td>0.0005</td>
<td>1.8</td>
<td>1997</td>
</tr>
</tbody>
</table>
## ATTACHMENT No. 2

### Constituent MCL DLR PHG or (MCLG) Date of PHG

**Chemicals with MCLs in 22 CCR §64444—Organic Chemicals**

**(b) Non-Volatile Synthetic Organic Chemicals (SOCs)**

<table>
<thead>
<tr>
<th>Constituent</th>
<th>MCL</th>
<th>DLR</th>
<th>PHG or (MCLG)</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alachlor</td>
<td>0.002</td>
<td>0.001</td>
<td>0.004</td>
<td>1997</td>
</tr>
<tr>
<td>Atrazine</td>
<td>0.001</td>
<td>0.0005</td>
<td>0.00015</td>
<td>1999</td>
</tr>
<tr>
<td>Bentazon</td>
<td>0.018</td>
<td>0.002</td>
<td>0.2</td>
<td>1999 (rev2009)</td>
</tr>
<tr>
<td>Benzo(a)pyrene</td>
<td>0.0002</td>
<td>0.0001</td>
<td>0.000007</td>
<td>2010</td>
</tr>
<tr>
<td>Carbofuran</td>
<td>0.018</td>
<td>0.005</td>
<td>0.0017</td>
<td>2000</td>
</tr>
<tr>
<td>Chlordane</td>
<td>0.0001</td>
<td>0.0001</td>
<td>0.00003</td>
<td>1997 (rev2006)</td>
</tr>
<tr>
<td>Dalapon</td>
<td>0.2</td>
<td>0.01</td>
<td>0.79</td>
<td>1997 (rev2009)</td>
</tr>
<tr>
<td>1,2-Dibromo-3-chloropropane (DBCP)</td>
<td>0.0002</td>
<td>0.0001</td>
<td>0.0000017</td>
<td>1999</td>
</tr>
<tr>
<td>2,4-Dichlorophenoxyacetic acid (2,4-D)</td>
<td>0.07</td>
<td>0.01</td>
<td>0.2</td>
<td>2009</td>
</tr>
<tr>
<td>D(2-ethylhexyl)adipate</td>
<td>0.4</td>
<td>0.005</td>
<td>0.2</td>
<td>2003</td>
</tr>
<tr>
<td>D(2-ethylhexyl)phthalate (DEHP)</td>
<td>0.004</td>
<td>0.003</td>
<td>0.012</td>
<td>1997</td>
</tr>
<tr>
<td>Diquat</td>
<td>0.007</td>
<td>0.002</td>
<td>0.014</td>
<td>1997 (rev2010)</td>
</tr>
<tr>
<td>Endrin</td>
<td>0.002</td>
<td>0.001</td>
<td>0.0018</td>
<td>1999 (rev2008)</td>
</tr>
<tr>
<td>Ethylene dibromide (EDB)</td>
<td>0.00005</td>
<td>0.00002</td>
<td>0.00001</td>
<td>2003</td>
</tr>
<tr>
<td>Glyphosate</td>
<td>0.7</td>
<td>0.025</td>
<td>0.9</td>
<td>2007</td>
</tr>
<tr>
<td>Heptachlor</td>
<td>0.00001</td>
<td>0.00001</td>
<td>0.000008</td>
<td>1999</td>
</tr>
<tr>
<td>Heptachlor epoxide</td>
<td>0.00001</td>
<td>0.00001</td>
<td>0.000006</td>
<td>1999</td>
</tr>
<tr>
<td>Hexachlorobenzene</td>
<td>0.001</td>
<td>0.0005</td>
<td>0.00003</td>
<td>2003</td>
</tr>
<tr>
<td>Hexachlorocyclopentadiene</td>
<td>0.05</td>
<td>0.001</td>
<td>0.05</td>
<td>1999</td>
</tr>
<tr>
<td>Lindane</td>
<td>0.0002</td>
<td>0.0002</td>
<td>0.000032</td>
<td>1999 (rev2005)</td>
</tr>
<tr>
<td>Methoxychlor</td>
<td>0.03</td>
<td>0.01</td>
<td>0.00009</td>
<td>2010</td>
</tr>
<tr>
<td>Molinate</td>
<td>0.02</td>
<td>0.002</td>
<td>0.001</td>
<td>2008</td>
</tr>
<tr>
<td>Oxamyl</td>
<td>0.05</td>
<td>0.02</td>
<td>0.026</td>
<td>2009</td>
</tr>
<tr>
<td>Pentachlorophenol</td>
<td>0.001</td>
<td>0.002</td>
<td>0.0003</td>
<td>2009</td>
</tr>
<tr>
<td>Picloram</td>
<td>0.5</td>
<td>0.001</td>
<td>0.5</td>
<td>1997</td>
</tr>
<tr>
<td>Polychlorinated biphenyls (PCBs)</td>
<td>0.0005</td>
<td>0.0005</td>
<td>0.00009</td>
<td>2007</td>
</tr>
<tr>
<td>Simazine</td>
<td>0.004</td>
<td>0.001</td>
<td>0.004</td>
<td>2001</td>
</tr>
<tr>
<td>2,4,5-TP (Silvex)</td>
<td>0.05</td>
<td>0.001</td>
<td>0.025</td>
<td>2003</td>
</tr>
<tr>
<td>2,3,7,8-TCPD (dioxin)</td>
<td>3x10^-8</td>
<td>5x10^-9</td>
<td>5x10^-11</td>
<td>2010</td>
</tr>
<tr>
<td>Thio embarrassing</td>
<td>0.07</td>
<td>0.001</td>
<td>0.07</td>
<td>2000</td>
</tr>
<tr>
<td>Toxaphene</td>
<td>0.003</td>
<td>0.001</td>
<td>0.00003</td>
<td>2003</td>
</tr>
</tbody>
</table>
### ATTACHMENT No. 2

<table>
<thead>
<tr>
<th>Constituent</th>
<th>MCL</th>
<th>DLR</th>
<th>PHG or (MCLG)</th>
<th>Date of PHG</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Chemicals with MCLs in 22 CCR §64533—Disinfection Byproducts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Trihalomethanes</td>
<td>0.080</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Bromodichloromethane</td>
<td>--</td>
<td>0.0010</td>
<td>(zero)</td>
<td>--</td>
</tr>
<tr>
<td>Bromoform</td>
<td>--</td>
<td>0.0010</td>
<td>(zero)</td>
<td>--</td>
</tr>
<tr>
<td>Chloroform</td>
<td>--</td>
<td>0.0010</td>
<td>(0.07)</td>
<td>--</td>
</tr>
<tr>
<td>Dibromochloromethane</td>
<td>--</td>
<td>0.0010</td>
<td>(0.06)</td>
<td>--</td>
</tr>
<tr>
<td>Haloacetic Acids (five) (HAA5)</td>
<td>0.060</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Monochloroacetic Acid</td>
<td>--</td>
<td>0.0020</td>
<td>(0.07)</td>
<td>--</td>
</tr>
<tr>
<td>Dichloroacetic Acid</td>
<td>--</td>
<td>0.0010</td>
<td>(zero)</td>
<td>--</td>
</tr>
<tr>
<td>Trichloroacetic Acid</td>
<td>--</td>
<td>0.0010</td>
<td>(0.02)</td>
<td>--</td>
</tr>
<tr>
<td>Monobromoacetic Acid</td>
<td>--</td>
<td>0.0010</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Dibromoacetic Acid</td>
<td>--</td>
<td>0.0010</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Bromate</td>
<td>0.010</td>
<td>0.0010</td>
<td>0.0001</td>
<td>2009</td>
</tr>
<tr>
<td>Chlorite</td>
<td>1.0</td>
<td>0.020</td>
<td>0.05</td>
<td>2009</td>
</tr>
<tr>
<td><strong>Microbiological Contaminants (TT = Treatment Technique)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Coliform % positive samples</td>
<td>%</td>
<td>5</td>
<td>(zero)</td>
<td></td>
</tr>
<tr>
<td>Cryptosporidium**</td>
<td>TT</td>
<td>(zero)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Giardia lamblia**</td>
<td>TT</td>
<td>(zero)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Legionella**</td>
<td>TT</td>
<td>(zero)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Viruses**</td>
<td>TT</td>
<td>(zero)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Chemicals with PHGs established in response to CDPH requests. These are not currently regulated drinking water contaminants.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>N-Nitrosodimethylamine (NDMA)</td>
<td>--</td>
<td>--</td>
<td>0.000003</td>
<td>2006</td>
</tr>
<tr>
<td>1,2,3-Trichloropropane</td>
<td>--</td>
<td>0.000005</td>
<td>0.0000007</td>
<td>2009</td>
</tr>
</tbody>
</table>

**Notes:**

*CDPH will maintain a 0.0050 mg/L DLR for bromate to accommodate laboratories that are using EPA Method 300.1. However, laboratories using EPA Methods 317.0 Revision 2.0, 321.8, or 326.0 must meet a 0.0010 mg/L MRL for bromate and should report results with a DLR of 0.0010 mg/L per Federal requirements.

*OEHHA’s review of this chemical during the year indicated (rev20XX) resulted in no change in the PHG

** Surface water treatment = TT
ATTACHMENT No. 3

City of Sunnyvale Consumer Confidence Reports:

- 2010 Water Quality Report
- 2011 Water Quality Report
- 2012 Water Quality Report
HEALTH & EDUCATION 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 Safe Drinking Water Hotline.

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 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 Safe Drinking Water Hotline.

USEPA Safe Drinking Water Hotline (800) 426-4791

WEB RESOURCES
California Department of Public Health www.cdph.ca.gov
US Environmental Protection Agency www.epa.gov/drink
Department of Water Resources www.water.ca.gov
Emergency Preparedness www.ready.gov
Bay Area Water Supply and Conservation Agency www.bawcsa.org
American Water Works Association www.awwa.org

EPA Statement on Chromium-6 (Hexavalent Chromium) in Drinking Water

The presence of chromium-6 in drinking water and its potential health effects has been an issue of growing concern across the nation. There is currently very little evidence to suggest that chromium-6 present in low concentrations in drinking water can cause cancer or other adverse health effects in humans. To date, only a few animal studies have linked chromium-6 to cancer, and only when animals were given doses that were hundreds of times greater than the safety standards for human exposure.

In California, chromium-6 is regulated under the 50-parts per billion (ppb) MCL for total chromium. The Office of Environmental Health Hazard Assessment (OEHHA) within the California EPA, is currently in the process of finalizing a Public Health Goal (PHG) Level of 0.05 ppb. The PHG is a level of drinking water contaminant at which adverse health effects are not expected to occur from a lifetime of exposure.

The EPA has issued a statement on chromium-6, as well as other information, which can be found at http://water.epa.gov/drink/info/chromium6.cfm

TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue, specifically coming before the City Council at its regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council’s attention during the “Citizens to be Heard” portion of the meeting agenda. Alternatively, you can send a letter in advance of a meeting.

City Council Meetings
City Hall Council Chambers
556 West Olive Avenue
Sunnyvale, CA 94086

A list of City Council meetings, agenda items, and study issues can be obtained by calling the City Clerk’s office at (408) 730-7483 or by visiting our website at www.sunnyvale.ca.gov.
Protecting your water supply

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (EPA) and the California Department of Public Health (CDPH) provide regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations also establish limits for contaminants in bottled water that provide the same protection for public health.

The source of drinking water (both tap water and bottled water) includes rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the earth or through the ground, it also mixes 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 wild birds.
- 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 originate from a variety of sources such as agriculture, urban stormwater runoff, and residential use.
- Organic Chemical Contaminants such as synthetic and volatile organic compounds that are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, agricultural application and septic systems.
- Radiological Contaminants that can be naturally-occurring or be the result of oil and gas production and mining activities.

Protection begins in the watersheds. Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Contamination may be treated, which removes the cost to deliver water to your tap. Here are ways that you can help protect our watershed:

- Eliminate excess use of lawn and garden fertilizers and pesticides
- Pick up after your pets
- Use treated motor oil and other recyclables at the SMART Station
- Dispose of pharmaceuticals at any Sunnyvale pharmacy. Medications should not be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals, and paints at a Household Hazardous Waste Drop-off Event
- Volunteer in your community. The Creek Connections Action Group works to protect the County’s waterways. Visit www.creekconnections.org.
- Participate in public meetings and forums. It allows decision-makers to hear your perspective and you to be involved in protecting your water supply.

More information about disposal and recycling ►
EPA (800) 284-6611
CDPH (650) 552-8907

SmartTap Station
204 Carol Road, Sunnyvale, CA 94086
Open daily 8 a.m. to 6 p.m.
Tel: (650) 735-8510

SCVWD Household Hazardous Waste Drop-off Event
164 Carol Road, Sunnyvale, CA 94086
Every 3rd Saturday 8 a.m. to 1 p.m.

Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD), and treated surface water from the San Francisco Public Utilities Commission (SFPUC). There are pockets of Sunnyvale Customers that receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

Local Groundwater

The City owns, operates, and maintains eight deep wells. The wells are used to supplement the imported water supply during peak demands in the summer months and emergency situations. The City is always working to increase flexibility in local groundwater supplies, enhance water quality, reduce operating costs, and increase reliability.

Groundwater improvements include well water connections, electrical upgrades, and installation of an emergency generator. Groundwater pumped from these wells is treated by SCVWD.

The City completed a Drinking Water Source Assessment Program (DWASAP) in January 2003 for these groundwater sources. The City’s groundwater sources are considered most vulnerable to contamination by leaky underground fuel tanks, dry cleaning chemicals, several collection systems, old septic systems, and machine shops.

SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the City. Filled water turbidity from SFPUC met the standard of 0.5 NTU or less, 99% of the time.

The Hetch Hetchy Watershed provides most of the SFPUC water supply, supplemented by the Almaden watershed. The major water source originates from spring snowmelt flowing down the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for watershed protection, disinfection treatment practices, bacteriological quality monitoring, and operations, the State has granted this water source a Grade 1 exemption.

The Almaden Watershed spans more than 35,000 acres in Almaden and Santa Clara Counties. Surface water from rainfall and runoff is collected in the Cataract and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated, fluoridation, chlorination, and corrosion control treatment are provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring level to help protect against tooth decay in consumers. The fluoride levels in the treated water are maintained within a range of 0.6-1.5 mg/l, as required by CDPH.

The SFPUC aggressively protects the natural water resources entrusted to its care. Its annual Hetch Hetchy Watershed Water Supply evaluates the sanitary conditions, water quality, potential contamination sources, and the results of watershed management activities by the SFPUC and its partner agencies, including the National Fish Service, to reduce or eliminate contamination sources. The SFPUC also conducts sanitary surveys of the local Alameda and Peninsula watersheds every five years. These surveys identify wildlife and human activity as potential contamination sources. The reports are available for review at the CDPH San Francisco office.

More information on SFPUC ►
Tel: (415) 355-3131, or call
CDPH (650) 552-8907

SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the City. SCVWD imports more than half of its supply from the South San Francisco, Delta, and San Luis Reservoirs, which all draw water from the Sacramento-San Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Colma Reservoirs.

SCVWD source water are vulnerable to potential contamination from a variety of land use practices, such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. Imported sources are vulnerable to vadose zone (benton) plant discharges, seawater intrusion, and wildfires in watershed areas.

Local sources are also vulnerable to contamination from commercial and natural and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plant provides multiple barriers for physical removal and disinfection of contamination.

More information on SCVWD ►
www.scvwd.org

WATER CONSERVATION TIPS

The City works cooperatively with our water wholesalers to provide residents with advice, assistance, and access to programs. The following water-saving tips are simple ways to conserve water both indoors and out, and are provided jointly by the City and SCVWD.

Steps to Save Water Indoors

- Turn off the faucet while you brush your teeth.
- Take shorter showers. You will save 2.5 gallons of water each minute.
- Install water-efficient faucet aerators and showerheads in your kitchen and bathrooms.
- Check toilets and faucets for leaks. Running toilets can waste 2 gallons a minute while leaky faucets can waste thousands of gallons.
- Do not use the toilet as a wastebasket. Only toilet paper goes in the toilet.
- Only wash full loads of laundry and dishes.
- Rinse huts and vegetables in a pan instead of using running water.
- Keep a pitcher of drinking water in the refrigerator. Running hot water to cool it off for drinking is wasteful.
- Replace your old front-loading clothes washer with a high-efficiency model. For information about rebates call the water conservation hotline.
- By your toilet uses over 3.5 gallons per flush replace it with a high-efficiency toilet. New models use 1.6 gallons water.

More information about rebates call the water conservation hotline.

Steps to Save Water Outdoors

- Plant native or drought-resistant plants that require less watering. Native plants promote healthier local ecosystems.
- Use a broom to sweep off pavement. Using a hose to wash sidewalks, driveways, and patios wastes water.
- Apply organic mulch around plants to reduce moisture loss. Keep weeding gone down, and promote a healthier soil environment.
- Deep-soak your lawn to encourage moisture in the roots. Light sprinkling wastes water rapidly, quickly and encourages shallow-rooted systems that need more frequent watering.
- Check for leaks in pipes, sprinkler heads, and valves.
- Water during cool parts of the day. Early morning is the best time since it helps prevent growth of fungi.
- Water your lawn only when it needs it. You can test it by stepping on it and see it springs back up. If it does not, then you may need watering.
- Avoid watering on windy days.
- Use drip irrigation in larger gardens with a weather based irrigation control. For information about rebates call the water conservation hotline.

WATER CONSERVATION TIPS

Steps to Save Water Indoors

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2010 WATER QUALITY TEST RESULTS

The City of Fumax has added a comprehensive water-quality monitoring program that encompasses 150-month wells and all water purchased from SFPU and SOWA. This program ensures that all of our customers are on a system that complies with all regulations and that no maximum contaminant limits (MCLs) or interim maximum contaminant goals (MCGs) for regulated chemicals, bacteria, or viruses are exceeded. In order to ensure water quality standards are met, drinking water samples are collected and analyzed for a variety of regulated and unregulated contaminants. Samples are tested by the City's certified laboratory and an independent laboratory using the latest testing procedures and equipment. We collect more samples than required by the CDPH to provide you with the highest quality of water at all times. In addition, the City is collecting SFPU and SOWA samples that are submitted before delivering water to the City. Such measures help to continue meeting the established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the City, SFPU, and SOWA. Water quality data is grouped by water source. Lead was monitored for more than 20,000 tests for the 17-macro organizations. We detected only 11 of 71,126 samples were found to be at levels higher than CDPH allows.

Only the parameters detected are shown. Other constituents were analyzed but are not listed because they were not detected. Additionally, unregulated parameters are shown in red.

More information

For a complete list of all the chemicals analyzed and associated health effects, please visit the City's website or call 311. The City is responsible for providing high-quality drinking water, but cannot control the total of contaminants in drinking water.

DEFINITIONS OF KEY TERMS

Maximum Contaminant Level (MCL). The highest level of a contaminant allowed in drinking water. The MCLs are established by the U.S. Environmental Protection Agency (EPA). The MCLs for the contaminants in drinking water are set as public health goals, taking into account the latest data on the effects of contaminants on public health. The MCLs are enforceable standards and are legally binding.

Maximum Contaminant Level Goal (MCLG). The level of a contaminant in drinking water below which there is no known or anticipated risk to health. It is not enforceable, but MCLGs serve as benchmarks for setting National Secondary Drinking Water Regulations.

Maximum Contaminant Level (MCL) Standard: A level of a contaminant in drinking water, above which there is no known or anticipated risk to health. The MCMs for the contaminants in drinking water are set as public health goals, taking into account the latest data on the effects of contaminants on public health. The MCMs are enforceable standards and are legally binding.

Typical Sources in Drinking Water

1. Natural processes or human activity
2. Industrial or agricultural contamination
3. Contamination from sewage or liquid waste treatment plants
4. Drinking water treatment processes
5. Disinfection by-products
6. Surface water

Primary Drinking Water Standards (Public Health-Related Standards)

<table>
<thead>
<tr>
<th>INORGANIC CHEMICALS (SOURCE WATER SAMPLES)</th>
<th>Groundwater</th>
<th>SFPU</th>
<th>SOWA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium</td>
<td>ppm</td>
<td>0.2</td>
<td>0.2</td>
</tr>
<tr>
<td>Nitrates</td>
<td>ppm</td>
<td>48</td>
<td>50</td>
</tr>
<tr>
<td>Sulfates</td>
<td>ppm</td>
<td>240</td>
<td>240</td>
</tr>
</tbody>
</table>

Secondary Drinking Water Standards (Aesthetic and Aroma-Related Standards)

<table>
<thead>
<tr>
<th>ORGANIC CHEMICALS (SOURCE WATER SAMPLES)</th>
<th>Groundwater</th>
<th>SFPU</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Total Halogenated Hydrocarbons</td>
<td>ppm</td>
<td>0.025</td>
<td>0.025</td>
</tr>
<tr>
<td>Total Chlorinated Hydrocarbons</td>
<td>ppm</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Total Mercaptans</td>
<td>ppm</td>
<td>0.005</td>
<td>0.005</td>
</tr>
<tr>
<td>Total BTEX</td>
<td>ppm</td>
<td>0.005</td>
<td>0.005</td>
</tr>
</tbody>
</table>

Disinfection By-Products and Precursors (Source Water Samples)

| Chlorine | ppm | 0.2 | 0.2 | 0.2 |
| Sodium Hypochlorite | ppm | 0.2 | 0.2 | 0.2 |

HOW TO READ THIS CHART

DEFINITIONS OF KEY TERMS

Maximum Contaminant Level (MCL). The highest level of a contaminant allowed in drinking water. The MCLs for the contaminants in drinking water are set as public health goals, taking into account the latest data on the effects of contaminants on public health. The MCLs are enforceable standards and are legally binding.

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Typical Sources in Drinking Water

1. Natural processes or human activity
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3. Contamination from sewage or liquid waste treatment plants
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5. Disinfection by-products
6. Surface water

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HEALTH & EDUCATION INFORMATION

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of certain 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 Safe Drinking Water Hotline.

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 others with immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice 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 Safe Drinking Water Hotline.

USEPA Safe Drinking Water Hotline (800) 426-4781

EPA Statement on Chromium-6 (Hexavalent Chromium) in Drinking Water

The presence of chromium-6 in drinking water and its potential health effects have been an issue of growing concern across the nation. There is currently very little evidence to suggest that chromium-6 present in low concentrations in drinking water can cause cancer or other adverse health effects in humans. To date, only a few animal studies have linked chromium-6 to cancer, and only when animals were given doses that were hundreds of times greater than the safety standards for human exposure.

In California, chromium-6 is regulated under the 50 parts per billion (ppb) MCL for total chromium. The Office of Environmental Health Hazard Assessment (OEHHA) within the California EPA is currently in the process of finalizing a Public Health Goal (PHG) Level of 0.02 ppb. The PHG is the level of drinking water contaminant at which adverse health effects are not expected to occur from a lifetime exposure. The EPA has issued a statement on chromium-6, as well as other information, which can be found at water.epa.gov/chromium/hexavalent-chromium.

Last year your tap water met all state and federal drinking water health standards.

The City of Sunnyvale aims to provide superior service while delivering a reliable, high-quality drinking water supply to our customers. Last year, your tap water met all state and federal drinking water health standards. The City vigilantly safeguards its water supplies, and once again we are proud to report that our system has met or exceeded water quality standards.

WHAT'S INSIDE & IMPORTANT INFORMATION ABOUT YOUR WATER

Tips for Saving Water

Tests for Contaminants

Your drinking water is:

- Safe to drink
- Free of contaminants

Never use bottled water unless you are concerned about contamination.

For more information call the Drinking Water Hotline at (408) 730-7483 or by visiting our website at sunnyvale.ca.gov/water.

TO GET INVOLVED

To provide input on decisions that affect drinking water quality, you are welcome to speak on any issue, specifically coming before the City Council at a regularly scheduled council meeting. You can also speak on any topic you wish to bring to the Council’s attention during the “Public Comments” portion of the meeting agenda. Additionally, you can send a letter in advance of a meeting.

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City Hall Council Chambers
456 West Olive Avenue
Sunnyvale, CA 94086

Tuesdays, 7 p.m.

A list of City Council meetings, agenda items, and study issues can be obtained by calling the City Clerk’s office at (408) 730-7483 or by visiting our website at sunnyvale.ca.gov.
Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCWWD), and treated surface water from the Sunnyvale Water Supply Commission (SFPUC). There are packets of sunnyvale customers who receive water from the California Water Service Company (Cal Water); questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

Local Groundwater

The City owns, operates, and maintains six deep wells. The wells are used to help supplement the imported water supplies during peak demands in the summer months and emergency situations. The City is always working to increase flexibility in local groundwater supplies, enhance water quality, reduce operating costs, and increase reliability. Recent groundwater improvements include water well connections, electrical upgrades, and installation of an emergency generator. Groundwater pumped from these wells is treated by SCWWD.

SFPUC Supply

The City purchases a blend of Hetch Hetchy water and treated water from SFPUC to serve the northern part of the City. Filtreto water treated by SFPUC meets the standard of 0.2 NTU or less, 95% of the time.

The Hetch Hetchy Water Supply Project (SFPUC) in January 2003 for these groundwater supplies. The City's groundwater sources are considered most vulnerable to contamination by leaky underground fuel tanks, dry cleaning chemicals, sewer collection systems, old septic systems, and machine shops.

SCWWD Supply

The City purchases treated surface water from SCWWD and delivers it to the southern portion of the City. SCWWD supplies more than half of its supply from the South Bay Aqueduct, Lake Isabella, and San Luis Reservoir, which all draw water from the Sacramento-San Joaquin Delta Waterway. SCWWD local-surface-water sources include Anderson and Gales Reservoirs.

SCWWD source waters are vulnerable to potential contamination from a variety of land-use practices such as agricultural and urban non-point recreational activities, livestock grazing, and residential and industrial development. Imported sources are vulnerable to wastewater treatment plant discharges, seawater intrusion, and wildfires in watershed areas. Local sources are also vulnerable to contamination from commercial and industrial mining practices. No contaminant associated with any of these activities has been detected in SCWWD treated water. Water treatment plants provide multiple barriers for physical removal and disinfection of contaminants.

More information on SCWWD: Visit: www.scwd.org

WATER CONSERVATION TIPS

The City works cooperatively with our water wholesalers to provide residents with advice, assistance, and access to programs. The following water-saving tips are simple ways to conserve water both indoors and out, and are provided jointly by the City and SCWWD.

Steps to Save Water Indoors

- Turn off the faucet while you brush your teeth.
- Take shorter showers. You'll save 2.5 gallons of water each minute.
- Install water-efficient aerators and showerhead in your kitchen and bathrooms.
- Check toilets and faucets for leaks. Running toilets can waste two gallons a minute, while leaky faucets can waste thousands of gallons.
- Use the toilet as a wastebasket. Only toilet paper goes in the toilet.
- Only wash full loads of laundry and dishes.

Steps to Save Water Outdoors

- Plant native or drought-tolerant plants that require less watering. Native plants promote healthier local ecosystems.
- Use a broom to sweep off pavement. Using a hose to wash sidewalks, driveways, and patios wastes money and water.
- Apply organic mulch around plants to reduce moisture loss, keep weed growth down, and promote a healthier soil environment.
- Deep soak your lawn to ensure moisture reaches the roots. Light sprinkle watering evaporates quickly and encourages shallow root systems that need more frequent watering.

- Check for leaks in pipes, sprinkler heads, and valves.
- Water cold parts of the day. Early morning is the best time since it helps prevent growth of fungus.
- Water your lawn only when it needs it. You can tell by stepping on it and see if it springs back up. If it does, it does not need watering.
- Avoid watering on windy days.
- Use drip irrigation in large gardens with the least amount of water. Drip irrigation systems should be inspected and adjusted regularly for optimal performance.

More information about disposal and recycling:

Call 408-731-7202.

SCWWD Water Conservation Hotline: (650) 265-9076, ext. 2554

SCWWD Water Conservation Hotline: (650) 265-9076, ext. 2554
2011 WATER QUALITY TEST RESULTS
The City of Sunnyvale has instituted a comprehensive water quality monitoring program that comprises city-wide wells and all water purchased from SFPUC and SCWWD. This program ensures that all of our customers receive water that complies with all regulatory criteria and that no minimum contaminant levels (MCLs) or maximum contaminant levels (MCLs) for regulated chemicals, radionuclides, or pollutants are exceeded.

To ensure water quality standards are met, drinking water samples are collected daily throughout Sunnyvale and analyzed for a variety of regulated and unregulated contaminants. Samples are taken by the city's water lab technicians and an independent certified laboratory using the latest testing procedures and equipment.

We collected more samples that required by the CDPH to provide our water with the highest quality of water at all times. In addition, the city's microwatershed and SFPUC conduct their own testing before delivering water to the city. This ensures help to continue meeting established water quality standards.

The table to the right shows the results of the distribution system and source water analyses conducted by the city, SFPUC, and SCWWD. Water quality data is gathered by water source. Last year we collected more than 20,000 tests for more than parameters. We detected only 12 of these parameters, and none were found at levels higher than CDPH allowed.

Only the parameters detected are shown. Other contaminants were not detected because they were not detected. Additionally, unregulated parameters are shown to provide you with additional information.

Below, although representations were collected prior to 2011, as the CDPH enforces minimum contaminant levels at least three times per year due to the unregulated nature of contaminants, the data are not significant.

More information
For complete list of all chlorine and chloramines detected, visit the city's water quality monitoring dashboard. If you have any questions, feel free to contact the City of Sunnyvale's Water Quality Manager.

DEFINITIONS OF KEY TERMS

Maximum Contaminant Level (MCL): The largest amount of a contaminant that is considered safe for drinking water. Primary MCLs are set to protect the public health. Secondary MCLs are set to protect the public health and are less stringent than primary MCLs. Secondary MCLs are not enforceable by law.

Maximum Contaminant Level Goal (MCLG): The level of a contaminant in water below which there would be no known or anticipated risk to human health. MCLGs should be achieved where feasible. This does not necessarily mean that MCLGs will be achieved by any year.

Maximum Ambient Detection Limit (MADL): An ambient limit that is used to determine if a contaminant is present in a sample. MADLs are used to ensure that the methods used to determine the presence of contaminants are accurate.

TYPICAL SOURCES OF DRINKING WATER

1. Surface water
2. Groundwater
3. Surface water treatment
4. Groundwater treatment

TYPICAL SOURCES OF DRINKING WATER

HOW TO READ THIS CHART

PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH-RELATED STANDARDS)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Source Water</th>
<th>MCL</th>
<th>MCLG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Barium</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Beryllium</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Bicarbonate</td>
<td>420</td>
<td>420</td>
<td></td>
</tr>
<tr>
<td>Bromate</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Cadmium</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Chromium (VI)</td>
<td>10</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Copper</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Lead</td>
<td>15</td>
<td>15</td>
<td></td>
</tr>
<tr>
<td>Manganese</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Mercury</td>
<td>0.01</td>
<td>0.01</td>
<td></td>
</tr>
<tr>
<td>Nickel</td>
<td>5</td>
<td>5</td>
<td></td>
</tr>
<tr>
<td>Silver</td>
<td>1</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Sulfate</td>
<td>250</td>
<td>250</td>
<td></td>
</tr>
<tr>
<td>TDS</td>
<td>500</td>
<td>500</td>
<td></td>
</tr>
<tr>
<td>Turbidity</td>
<td>5</td>
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SOURCE MAP

The location and size of the City of Sunnyvale's water treatment plant is depicted on the map. The location and size of the City's water distribution system are also shown. The City of Sunnyvale's water distribution system includes the City's water treatment plant, the City's water distribution system, and the City's water storage facilities.
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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 additional measures they may take to minimize potential exposure to contaminants in drinking water.

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In California, chromium-6 is regulated under the 50-parts per billion (ppb) MCL for total chromium. The Office of Environmental Health Hazard Assessment (OEHHA) within the California EPA has recently set the Public Health Goal (PHG) level of 0.02 ppb. The PHG is a level of drinking water contaminant at which adverse health effects are not expected to occur from a lifetime of exposure. The EPA has issued a statement on chromium-6, as well as other information, which can be found at http://water.epa.gov/drink/chromium/index.cfm.

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Last year your tap water met all state and federal drinking water health standards

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WHAT'S INSIDE

Important information about your tap water.

This important information about your tap water.

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Important information about your tap water.

Important information about your tap water.

Important information about your tap water.
Protecting your water supply

To ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (USEPA) and the California Department of Public Health (CDPH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. CDPH regulations 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 can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbiological 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, and oil and gas production.
- Pesticides and Herbicides that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential and industrial 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 seepage, urban stormwater runoff, agricultural application and septic systems.
- Radioactive Contaminants that can be naturally-occurring or result from gas and oil production.

Protection begins in the waterways. Protecting the water supply is important to ensure that water is safe from contamination and aesthetically pleasing for use. Contamination requires treatment, which increases the cost to deliver water to your tap. Here are ways that you can help protect our waterways:

- Eliminate or minimize use of lawn and garden fertilizers and pesticides.
- Pick up after your pets.
- Take used motor oil and other recyclables to the SMART Station. Disposal of pharmaceuticals at any Sunnyvale fire station. Medications should not be flushed down drains or put in the garbage.
- Dispose of cleaners, chemicals and paints at a Household Hazardous Waste Drop-off Event.
- Volunteer in your community. The Creek Connections Action Group works to protect the County’s waterways. Visit www.creatures.org for more information.
- Participate in public meetings and forums. It allows decision-makers to hear your perspectives and to be involved in protecting your water supply.

More information about disposing and recycling ☑ Call toll-free, 707-576-5000
SMART Station #
201 Carl Road, Sunnyvale, CA 94089
Open daily, 10 a.m. to 5 p.m., tel. (650) 792-6570
Household Hazardous Waste Drop-Off
104 Carl Road, Sunnyvale, CA 94087
Every 3rd Saturday, 8 a.m. to 1 p.m.

Where your water comes from

The City of Sunnyvale has three different sources of drinking water supply: local groundwater, treated surface water from the Santa Clara Valley Water District (SCVWD), and treated surface water from the San Francisco Public Utilities Commission (SFPUC). There are also pockets of Sunnyvale customers who receive water from the California Water Service Company (Cal Water). questions regarding the source and delivery of water provided by Cal Water can be directed to its local office at (650) 917-0152.

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The City owns, operates and maintains eight deep groundwater wells. The wells are used to help supplement the imported water supply, during peak demands in the summer months and during emergencies. The City is always working to increase reliability in local groundwater supplies, enhance water quality, reduce operating costs, and increase reliability. Recent groundwater improvements include well water connections, electrical upgrades, and installation of an emergency generator. Groundwater pumped from these wells is treated by CECW.

The City completed a Drinking Water Source Assessment Program (DWSAP) in January 2003 for these groundwater sources. The City’s groundwater sources are considered most vulnerable to contamination by leaking underground fuel tanks, city cleaning chemicals, sewer collection systems, old septic systems, and machine shops.

SFPUC Supply

The City purchases blended water from SFPUC to serve the northern part of the city. Filtered water from SFPUC meets the standard of 0.05 mg/L arsenic, as required by CDPH.

Contaminants from the SFPUC water supply are supplemented by the Alameda watershed. The major source originates from springs crossing the Tuolumne River and is stored in the Hetch Hetchy Reservoir. Since this water source meets all federal and state standards for water treatment, disinfection treatment practices, bacterial quality monitoring, and operations, the City has granted the water system a filtration exemption.

The Alameda Watershed contains more than 35,000 acres in Alameda and Santa Clara Counties. Surface water from rainfall and runoff is collected in the Calaveras and San Antonio Reservoirs. Prior to distribution, the water from these reservoirs is treated, fluoridated, disinfected, and corrosion control treatment is provided for the combined Hetch Hetchy and treated water. Fluoride is added to the naturally occurring levels to help protect against tooth decay. In the average, fluoride levels in the treated water are maintained within a range of 0.7 to 1.5 ppm, as required by CDPH.

SFPUC optimizes the water resources available to its customers. It has an annual update of the Hetch Hetchy Watershed Sanitary Survey, evaluates by-pass conditions, water quality, potential contamination sources, and the results of watershed management activities with partner agencies (such as the National Park Service and US Forest Service).

SCVWD Supply

The City purchases treated surface water from SCVWD and delivers it to the southern portion of the city. SCVWD imports more than half of its supply from the South Bay Aqueduct, Lake Del Valle, and San Luis Reservoir, which all draw water from the Sacramento-San Joaquin Delta Watershed. SCVWD local surface water sources include Anderson and Calero Reservoirs. SCVWD sources are vulnerable to potential contamination from a variety of land use practices such as agricultural and urban runoff, recreational activities, livestock grazing, and residential and industrial development. Imported sources are vulnerable to watershed treatment plant discharges, seawater intrusion, and wildfires in watershed areas. Local sources are also vulnerable to contamination from commercial stables and historic mining practices. No contaminant associated with any of these activities has been detected in SCVWD treated water. Water treatment plants provide multiple barriers for physical removal and containment of contaminants.

More information on SCVWD ☑ Visit www.scvwd.com or call (650) 969-6200.

Water Conservation Tips

The City works cooperatively with our water wholesalers to provide residents with advice, assistance, and access to programs. The following water-saving tips are simple ways to conserve water both indoors and outdoors. and are provided by the City and SCVWD.

**Water Conservation Holics** ☑ 965-6762

**Steps to Save Water Indoors**
- Turn off the faucet while you brush your teeth.
- Take shorter showers. You will save 2.5 gallons of water each minute.
- Install water-efficient faucet aerators and showerheads in your kitchen and bathrooms.
- Check toilets and faucets for leaks. Running toilets can waste two gallons a minute while leaky faucets can waste thousands of gallons.
- Don’t use the toilet as a wastebasket. Only toilet paper goes in the toilet.
- Only wash full loads of laundry and clothes.
- Rinse fruits and vegetables in a pan instead of running water.
- Keep a pitcher of drinking water in the refrigerator. Running tap water to cool it for drinking is wasteful.
- Replace your old low-flowing clothes washer with a high-efficiency model. For information about rebates call the Water Conservation Holics.
- If your toilet uses more than 6.0 gallons per flush, replace it with a high-efficiency toilet. New models use 70 percent less water. For information about rebates, call the Water Conservation Holics.

**Steps to Save Water Outdoors**
- Plant native or drought-tolerant plants that require less water. Native plants promote healthier local ecosystems.
- Use a broom or spade, not a hose, to clean sidewalks, driveways and patios. Water saves money and water.
- Apply organic mulch around plants to reduce moisture loss, keep weeds under control and promote a healthier soil.
- Deeply soak your lawn to ensure moisture reaches the roots. Lightly water frequently encourages shallow root systems that need more frequent watering.
- Check for leaks in pipes, sprinkler heads, and valves.
- Water during cool parts of the day. Early morning is the best time because it helps prevent growth of fungus.
- Water your lawn only when it needs it. If the grass dries up within a day after watering, it doesn’t need watering.
- Avoid watering on windy days.
- Use drip irrigation in larger gardens with weather-based irrigation control. For information about rebates call the Water Conservation Holics.
**Table: PRIMARY DRINKING WATER STANDARDS (PUBLIC HEALTH RELATED STANDARDS)**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Source Water Sampling</th>
<th>1 mg/L</th>
<th>2 mg/L</th>
<th>5 mg/L</th>
<th>10 mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>0.05</td>
<td>0.1</td>
<td>0.2</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Bacterial G.</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Naturally Occurring Radionuclides</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geosmin</td>
<td>0.05</td>
<td>0.1</td>
<td>0.1</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Hydrogen Sulfide</td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Disinfectant By-Products and Precursors</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>True THMs</td>
<td>0.06</td>
<td>0.06</td>
<td>0.1</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Trihalonitromethane</td>
<td>0.08</td>
<td>0.08</td>
<td>0.1</td>
<td>ND</td>
<td>ND</td>
</tr>
<tr>
<td>Haloacetonitrile</td>
<td>0.005</td>
<td>0.010</td>
<td>0.020</td>
<td>ND</td>
<td>ND</td>
</tr>
</tbody>
</table>
| Distribution System Sampling

**How to Read This Chart**

**Definitions of Key Terms**

Maximum Contaminant Level (MCL). The highest level of a contaminant allowed in drinking water. Primary MCLs are those for contaminants linked to health effects. Secondary MCLs are those for contaminants that do not cause health effects, but may affect water quality. MCLs are established by the USEPA and/or the Colorado Department of Health and Environment (CDHSE).

**Source Water Quality Parameters**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Source Water Sampling</th>
<th>1 mg/L</th>
<th>2 mg/L</th>
<th>5 mg/L</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nitrate</td>
<td>4.0</td>
<td>4.0</td>
<td>8.0</td>
<td>ND</td>
</tr>
<tr>
<td>Turbidity</td>
<td>5 NTU</td>
<td>10 NTU</td>
<td>20 NTU</td>
<td>ND</td>
</tr>
<tr>
<td>Silica</td>
<td>20 mg/L</td>
<td>40 mg/L</td>
<td>60 mg/L</td>
<td>ND</td>
</tr>
<tr>
<td>Cyanides</td>
<td>0.002 mg/L</td>
<td>0.005 mg/L</td>
<td>0.010 mg/L</td>
<td>ND</td>
</tr>
</tbody>
</table>

**Solution Map**

- **Irrigation and Agricultural Use**: Use water for irrigation purposes.
- **Lawn and Landscape Use**: Use water for landscaping and gardening.
- **Nonpotable Use**: Use water for nonpotable applications such as fire protection or industrial processes.
- **Fire Protection**: Use water for fire protection.
- **Recreational Use**: Use water for recreational purposes such as swimming or boating.
- **Aquatic Life**: Use water for aquatic life support.
- **Public Water System Use**: Use water for public water systems.
- **Groundwater**: Use water for groundwater recharge or replenishment.
- **Drinking Water Use**: Use water for drinking water purposes.
- **Wastewater Use**: Use water for wastewater treatment and disposal.
- **Disinfection**: Use water for disinfection purposes.
- **Water Treatment**: Use water for water treatment processes such as filtration, coagulation, and sedimentation.
- **Water Reuse**: Use water for reuse in industrial processes or agricultural irrigation.
- **Water Conservation**: Use water for conservation efforts to reduce water consumption.
- **Other Uses**: Use water for other specified purposes based on individual community needs.

**How to Read This Chart**

- **Primary Drinking Water Standards**: These standards are set by the USEPA and are designed to protect public health. Primary standards are enforceable and are legally binding.
- **Secondary Drinking Water Standards**: These standards are set by the USEPA and are designed to protect the environment. Secondary standards are not enforceable and are not legally binding.

**Source Water Quality**

- **Total Organics (TOC)**: TOC is an important parameter to monitor as it can indicate the presence of organic pollutants in the water.
- **Nitrate**: Nitrate is a nutrient that can be harmful to human health, particularly to infants, and is regulated to prevent its accumulation in drinking water.
- **Turbidity**: Turbidity is a measure of the clarity of water and is regulated to ensure that water is safe for consumption.

**Typical Sources in Drinking Water**

- **Surface Water**: Surface water sources such as rivers and lakes are subject to natural and anthropogenic contaminants.
- **Groundwater**: Groundwater sources are subject to different contaminants than surface water sources.

**DDF**

- **Surface Water**: Surface water sources such as rivers and lakes are subject to natural and anthropogenic contaminants.
- **Groundwater**: Groundwater sources are subject to different contaminants than surface water sources.

**SDF**

- **Surface Water**: Surface water sources such as rivers and lakes are subject to natural and anthropogenic contaminants.
- **Groundwater**: Groundwater sources are subject to different contaminants than surface water sources.

**CDF**

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