

2015
Annual Consumer Confidence Report on the Quality of
Jackson Park/Naval Hospital Bremerton Drinking Water

This is an annual report on the quality of water delivered by the drinking water system at Naval Base Kitsap Jackson Park and Naval Hospital Bremerton. Presented in this report is information on the source of our water, its constituents, and the health risks associated with any contaminants. Please read on for a full explanation of the quality of our water.

Our water is safe to drink.

Source of our Water

Jackson Park and Naval Hospital Bremerton (JP/NAVHOSP) purchases drinking water from the City of Bremerton. Bremerton's water sources consist of surface water from the Union River Reservoir and groundwater from production wells located in Kitsap County. All sources are managed per Washington State Department of Health (WDOH) requirements, Environmental Protection Agency (EPA) regulations, and best management practices for water supply systems. Bremerton owns and protects the 3,000 acre watershed surrounding the Union River supply. Access to the watershed is secured, patrolled, and limited to water supply and forestry management activities. Groundwater wells are also safeguarded through their wellhead protection efforts. Further information about the City of Bremerton's water system is included in the attached Drinking Water Quality report 2016. Additional information can be found at their website at www.ci.bremerton.wa.us.

Both the JP/NAVHOSP and City of Bremerton's water systems are operated and maintained by experienced personnel certified by the state of Washington. The Washington State Department of Health determined the City of Bremerton's water sources was of such good quality the city was not required to install filtration as long as all water quality, operational, and watershed protection requirements were met. The City of Bremerton consistently meets these quality standards. The City of Bremerton provides water that is treated with the following:

- 💧 Chlorine and Ultraviolet for disinfection to control microbes that could be present.
- 💧 Addition of sodium hydroxide to reduce lead and copper corrosion in plumbing.

Information from EPA

The sources of drinking water include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land and through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material. It can also pick up substances resulting from the presence of animals or from human activity. These substances are referred to as contaminants by the Environmental Protection Agency (EPA).

Contaminants that may be present in source water include:

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

In order to ensure that tap water is safe to drink, the EPA and the Washington State Department of Health (WDOH) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Washington State Department of Agriculture (WDOA) regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 EPA's Safe Drinking water Hotline at 800-426-4791.

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Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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. EPA/CDC guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

Additional Information for Lead

In Washington State, lead in drinking water comes primarily from materials and components used in household plumbing. The more time water has been sitting in pipes, the more dissolved metals, such as lead, it may contain. Elevated levels of lead can cause serious health problems, especially in pregnant women and young children.

To help reduce potential exposure to lead: for any drinking water tap that has not been used for 6 hours or more, flush water through the tap until the water is noticeably colder before using for drinking or cooking. You can use the flushed water for watering plants, washing dishes, or general cleaning. Only use water from the cold-water tap for drinking, cooking, and especially for making baby formula. Hot water is likely to contain higher levels of lead. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water is available from EPA's Safe Drinking Water Hotline at 1-800-426-4791 or online at <http://www.epa.gov/safewater/lead>.

Compliance (Action Level) for lead and copper samples is based on a 90th percentile. This means that the concentration of lead and copper must be less than or equal to the action level in at least 90% of the samples collected. In other words, out of every 10 locations sampled, 9 were at or below the Action Level.

Disinfectant Byproducts

Chlorine is added to drinking water to kill or inactivate harmful organisms that cause various diseases. This process is called disinfection. However, chlorine is a very active substance and it reacts with naturally occurring substances to form compounds known as disinfection byproducts (DBPs). The most common DBPs formed when chlorine is used are trihalomethanes (THMs), and haloacetic acids (HAAs).

Scientists have conducted studies on health effects of exposure to high levels of DBPs on laboratory animals. These studies have shown that several DBPs cause cancer in laboratory animals. In addition, some DBPs cause undesirable effects in the animals' growth and reproduction. It is, however, difficult to estimate how the results of these high dosage studies on laboratory animals can be applied to low dosage, long-term exposure for humans. Scientists have also studied the relationship between drinking chlorinated water and cancer rates. Some of these studies suggest an increased cancer risk to those using chlorinated drinking water, while others found no increased risk. Other studies that investigate whether chlorinated drinking water has an effect on reproduction and development also show inconsistent results. At the present time, the U.S. Environmental Protection Agency (EPA) does not believe there is enough evidence to state conclusively that DBPs cause these types of health effects. Research on the health effects of DBPs is not complete and the federal government continues funding research on this topic.

Water Quality Summary

The Navy has water testing requirements in addition to the City of Bremerton's water quality program. The below information provides a summary of the water testing conducted by the Navy. Our water system uses only EPA approved laboratory methods to analyze drinking water. Samples are drawn from designated sample sites in the distribution system by certified water shop personnel. All samples are then transported to an accredited laboratory where a full spectrum of water quality analyses is performed for the parameters listed below.

| Sampling Schedule | |
|----------------------------------|---------------|
| Parameter | Frequency |
| Coliform Monitoring ¹ | Monthly |
| Chlorine Residual | Daily |
| Lead and Copper | Every 3 years |
| Total Trihalomethane (THM) | Quarterly |
| Halo-Acetic Acids (HAA5) | Quarterly |

¹ Contaminants in this group include total coliform, fecal coliform, and heterotrophic bacteria.

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Detected Contaminants

In order to ensure that tap water is safe to drink, EPA and WDOH prescribe regulations which limit the amount of contaminants in water provided by public water systems. All sources of drinking water contain some naturally occurring contaminants. At low levels, these substances are generally not harmful in our drinking water. Removing all contaminants would be extremely expensive, and in most cases, would not provide increased protection of public health. A few naturally occurring minerals may actually improve the taste of drinking water and have nutritional value at low levels. Unless otherwise noted, the data presented in this table is from testing done in the 2015 calendar year. The EPA or the State requires us to monitor for certain contaminants less than once per year because the concentrations of these contaminants do not vary significantly from year to year, or the system is not considered vulnerable to this type of contamination. As such, some of the data, though representative, may be more than one year old.

The City of Bremerton tests for over 50 inorganic and organic compounds in the source water. Compounds detected in the City of Bremerton's source water during 2015 met all the protective standards set by federal and state agencies. Please refer to the attached City of Bremerton Drinking Water Quality report 2016 for complete test results.

Due to being a consecutive system, meaning we purchase our water from the City of Bremerton, there are only a few water quality parameters that are tested for in our water system within the fence line of the base. The tables below list the drinking water contaminants that we detected by water testing performed on the JP/NAVHOSP water system within the fence line of the base. Please refer to the tables below and the attached City of Bremerton Drinking Water Quality report for 2016 for complete test results. Although many more contaminants were tested, only those substances listed below were found in your water.

| Contaminates | MCLG | AL | Your Water (90 th %) | Sample Date | # of Samples Exceeding AL | Violation | Typical Sources |
|-------------------------------|------|-----|---------------------------------|-------------|---------------------------|-----------|---|
| Inorganic Contaminates | | | | | | | |
| Lead (ppb) | 0 | 15 | 8* | 2015 | 1** | No | Corrosion of household plumbing systems; erosion of natural deposits. |
| Copper (ppm) | 0 | 1.3 | 0.05* | 2015 | 0 | No | Corrosion of household plumbing systems; erosion of natural deposits. |

* This is the 90th % value from the most recent testing which is below the AL demonstrating our system is in compliance with the Lead & Copper Rule.
 ** Sample exceeding the AL occurred on 7/8/2015 at Bldg. 78C with a value of 55 ppb.

| Contaminates | MCLG | MCL | Your Water | Range | | Sample Date | Violation | Typical Sources |
|--------------------------------------|------|-----|------------|-------|--------|-------------|-----------|---|
| | | | | Low | High | | | |
| Volatile Organic Contaminants | | | | | | | | |
| Haloacetic Acids (HAA) (ppb) | N/A | 60 | 26.9* | 1.2 | 43.7 | 2015 | No | By-product of drinking water disinfection |
| Total Trihalomethane (TTHM) (ppb) | N/A | 80 | 58.3* | 4.4 | 89.4** | 2015 | No | By-product of drinking water disinfection |

* LRAA for the 2015 calendar year

** Our system exceeded the TTHM MCL at 1 location with locational running annual average of 58.3 ppb

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Definitions and Abbreviations

AL (Action Level) – The concentration of a contaminant, which, if exceeded, triggers treatment techniques or other requirements, which must be followed.

Level Detected – Laboratory analytical result for a contaminant; this value is evaluated against an MCL or AL to determine compliance.

LRAA – Locational Running Annual Average

MCL (Maximum Contaminant Level) – The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. Under the Safe Drinking Water Act, the EPA establishes these MCLs for compliance purposes.

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 allow for a margin of safety.

N/A – Not Applicable

ND – Not Detected. The compound was not detected above the Lab's Method Detection Limit

pCi/l – stands for picocuries per liter. A curie is a unit of radioactivity regarding the rate disintegration

ppb – 1 part per billion (equivalent to one penny in \$10,000,000).

ppm – 1 part per million (equivalent to one penny in \$10,000).

ppt – 1 part per trillion (equivalent to one penny in \$10,000,000,000).

Range – Represents the end values recorded from the highest and lowest analytical results of a reported contaminant.

Treatment Technique – A required process intended to reduce the level of a contaminant in drinking water.

Public Involvement

Drinking water system information can be obtained by contacting the Naval Base Kitsap Public Affairs Office, at 360-627-4031.



City of Bremerton Drinking Water Quality Report 2016

Bremerton Drinking Water Quality is Excellent

The City of Bremerton Water Utility is pleased to provide you with its annual water quality and efficiency report. Bremerton is committed to safeguarding its surface and groundwater sources. This report is a summary of the test results for water provided to over 50,000 customers last year. It reflects the commitment of Water Utility employees to deliver you excellent quality water. Included are details about:

- where your water comes from,
- what it contains, and
- how it compares to standards set by regulatory agencies.

Safe drinking water is essential. Citizens need to be well-informed to wisely utilize water resources and to support the improvements necessary to maintain high quality drinking water.



Protecting Our Water Supplies

Bremerton is fortunate to have high quality, well-protected water supplies. Surface water from the Union River headwaters and groundwater from production wells located in the Bremerton area provide Bremerton's water supply. All sources are managed in accordance with Washington State Department of Health requirements, Federal Environmental Protection Agency (EPA) regulations, and best management practices for water supply systems. Bremerton owns and protects the 3,000-acre watershed surrounding the Union River supply - this is a great value to our rate payers. Access to the watershed is secured, patrolled, and limited to water supply and forestry management activities. Each year the Washington State Department of Health inspects the surface supply. Groundwater wells are also safeguarded through efforts to protect critical areas around the wellheads. All water facilities are monitored and patrolled.

Bremerton Water Needs Minimal Treatment

Bremerton's water system is operated and maintained by experienced personnel certified by the State. The Washington State Department of Health determined Bremerton's Union River water source to be of such good quality that the City is not required to install a filtration facility as long as all water quality, operational, and watershed protection requirements are met. Bremerton consistently meets these high standards. Treatment of Bremerton's water currently consists of disinfection (chlorine and ultraviolet light) and corrosion control. Corrosion treatment increases the pH of water and is required to prevent Bremerton's water from leaching lead from customer's household plumbing. Sampling results confirm this treatment is successful in achieving corrosion control.



The City of Bremerton performs systematic flushing of the water distribution system. Customers are notified about flushing through newspaper ads, neighborhood signs, the City's website, e-News, and the Water Hotline (360-473-5490). Flushing is a process of sending a rapid flow of water through the mains to clean them. This helps to maintain water quality by removing naturally-occurring sediment. Flushing may cause temporary discoloration of your water. If this happens, call the Water Hotline or visit Bremerton's website for instructions on flushing your service. If your water does not clear up after the flushing process, please call the Customer Response Line at 360-473-5920.

Water Quality Summary

Your drinking water is regularly tested in accordance with all federal and state regulations for over 50 substances in both the water sources and the distribution system. Last year the City of Bremerton conducted over 1,000 tests for the parameters listed below. Only those detected are listed in the water quality summary.

| SAMPLING SCHEDULE | | | |
|--------------------------|-----------------------|----------------------------|---------------|
| Parameter | Frequency | Parameter | Frequency |
| Chlorine residual | Continuous monitoring | Giardia/Cryptosporidium | Monthly |
| Turbidity | Continuous monitoring | Nitrate | Annually |
| pH | Continuous monitoring | Inorganic chemicals | Every 3 years |
| Total coliform bacteria | Weekly | Volatile organic compounds | Every 3 years |
| Disinfection by-products | Quarterly | Radionuclides | Every 6 years |

Listed below are the few substances detected in Bremerton's water last year. All results meet protective standards set by federal and state agencies. Not listed are the substances that were tested but NOT detected. The amounts allowed in drinking water are so small, they are measured in parts per million or parts per billion. We have tried to make this report easy to understand; however, drinking water quality issues can be technical. For additional water quality information, please call 360-473-5920.

| SUBSTANCES DETECTED | | | | | | |
|---|---|------------------------|---|--|---|-----------------|
| Parameter | Highest Level Allowed EPA's MCL | Ideal Goals EPA's MCLG | Potential Sources | Highest Level Detected in 2015 to Determine Compliance | Ranges of Levels Detected in 2015 | Meets Standards |
| Regulated at the Surface Water Source | | | | | | |
| Turbidity | Treatment Technique 5 NTU | N/A | Soil runoff | 1.91 NTUs | 0.45 - 1.91 NTUs | Yes |
| Sodium <small>Most recently sampled in 2012</small> | No limit set | N/A | Naturally-occurring | 5.73 ppm | ND - 5.73 ppm | Yes |
| Regulated at the Groundwater Sources | | | | | | |
| Arsenic <small>Most recently sampled in 2012</small> | 10 ppb | 0 | Erosion of natural deposits | 4 ppb | ND - 4 ppb | Yes |
| Sodium <small>Most recently sampled in 2012</small> | No limit set | N/A | Naturally-occurring | 7.39 ppm | 5.92 - 7.39 ppm | Yes |
| Regulated in the Distribution System | | | | | | |
| Total Coliform | Presence of coliform in less than 5% of monthly samples | 0 | Naturally-occurring | 895 samples were taken in 2015 and two had coliform present. | | Yes |
| Trihalomethanes | 80 ppb | N/A | By-product of drinking water chlorination | 67.2 ppb locational running annual average | 13.1 - 91.5 ppb | Yes |
| Haloacetic acids | 60 ppb | N/A | By-product of drinking water chlorination | 42 ppb locational running annual average | 10.5 - 52.4 ppb | Yes |
| Chlorine | 4 ppm | 4 ppm | Water additive used to control microbes | 0.68 ppm annual average | ND - 1.36 ppm | Yes |
| Regulated at the Customer Tap | | | | | | |
| Lead <small>Most recently sampled in 2014</small> | Action Level = 15 ppb | 0 | Household plumbing | 3 ppb 90th percentile | One household tap sample site exceeded Action Level | Yes |
| Copper <small>Most recently sampled in 2014</small> | Action Level = 1300 ppb | 0 | Household plumbing | 70 ppb 90th percentile | No sample sites exceeded Action Level | Yes |

Action Level is the concentration of contaminant that, if exceeded, triggers treatment or other requirements a water system must follow. Ninety percent (90%) of all samples must be below this amount.

MCL (Maximum Contaminant Level) is the highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal) is the level of a contaminant in drinking water below which no known or expected risk to health exists. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level) is the highest level of a disinfectant allowed in water.

MRDLG (Maximum Residual Disinfectant Level Goal) is the level of a drinking water disinfectant below which no known or expected risk to health exists.

pCi/l stands for picocuries per liter. This is in parts per trillion.

ppb is parts per billion and is the same as a microgram per liter (ug/L) (equivalent to one penny in \$10,000,000).

ppm is parts per million and is the same as a milligram per liter (mg/L) (equivalent to one penny in \$10,000).

N/A means not applicable.

ND means the laboratory did not detect this substance.

NTU (Nephelometric Turbidity Unit) is the measurement of water clarity. Monitoring turbidity is a good indicator of water quality.

Treatment Technique is a required process intended to reduce the level of a contaminant. Bremerton's surface supply is shut off when turbidity increases above set points.

Information From EPA



Sources of both tap and bottled drinking water include rivers, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring substances such as minerals and radioactive materials. It also dissolves substances resulting from animal or human activity. Contaminants that may be present in source water are microbes; pesticides; herbicides; and radioactive, organic and inorganic chemicals. To ensure tap water is safe to drink, the Environmental Protection Agency (EPA) and the Washington State Board of Health regulate the amount of certain contaminants in public drinking water.

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

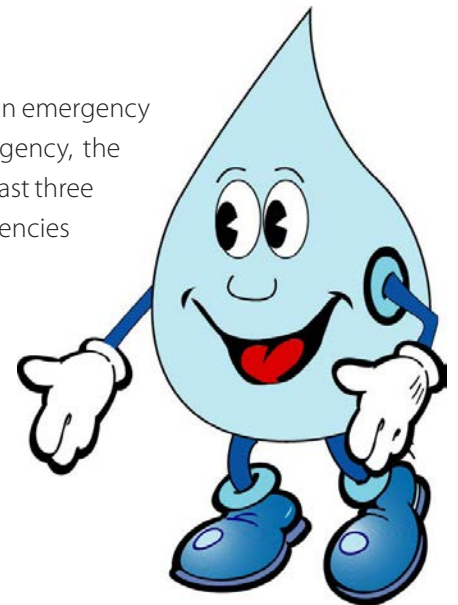
Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as those undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants, can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA guidelines on appropriate means to lessen risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at 1-800-426-4791. Please note that *Cryptosporidium* was not detected in Bremerton's source water last year and Bremerton's ultraviolet treatment inactivates *Cryptosporidium*.

Be Prepared for Emergencies

Normally your water is safe to drink, but should a disaster happen, you will need to treat it or have an emergency supply on hand if the city's water supply is interrupted. To prepare for a drinking water emergency, the American Red Cross recommends storing one gallon of water per person per day – enough for at least three days for drinking, food preparation, and sanitation. For more information on preparing for emergencies we recommend the following resources:

"Treating Drinking Water for Emergency Use"
Washington Department of Health
<http://www.doh.wa.gov/portals/1/Documents/pubs/331-115.pdf>

"Preparedness"
Kitsap County Department of Emergency Management
<http://www.kitsapdem.org/preparedness.aspx>



Professional Water Organizations

The City of Bremerton is proud to be members of the following professional water organizations:



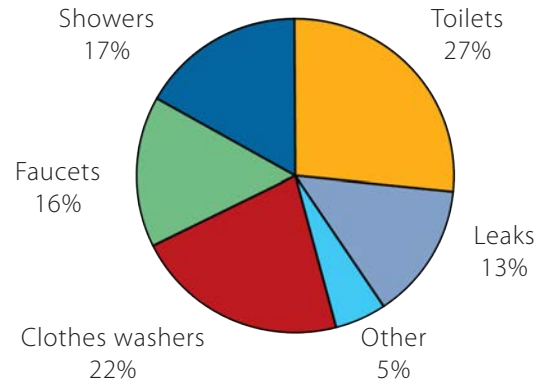
Water Use Efficiency Performance Report for 2015

Efficient water use benefits the environment, public health, and economy by helping to improve water quality, maintain aquatic ecosystems, and protect water resources. The City of Bremerton has emphasized water use efficiency since the 1990's. The City has a customer conservation program and is active in water use efficiency programs such as the Water Purveyors Association of Kitsap County, the Partnership for Water Conservation, the Alliance for Water Efficiency and EPA's WaterSense.

2015 Total Annual Water Production—6.2 Million Gallons per Day

| Bremerton's Main System Water Use Efficiency | |
|--|---|
| Goal | How Goal Was Met Last Year |
| Maintain water use per single family residence to below 180 gallons per day on a three year average. | Three year average water use per single family residence was 147 gallons per day. Goal was met. Great job by our customers! |
| State Regulation | How Regulation Was Met Last Year |
| Keep distribution system leakage less than 10% on a three year average. | Bremerton water system leakage was 6.5% on a three year average. |

Average Residential Indoor Water Use



Source: American Water Works Association Research Foundation, "Residential End Uses of Water"

How to Use Water Wisely

Bremerton's water supplies are dependent on rainfall to fill the reservoir and feed underground aquifers. Wise water use is always recommended and your conservation efforts are important. Improve your home's water efficiency — use water wisely to save money and this remarkable resource.

Tackle the biggest water guzzlers first!

- Install high efficiency low flow toilets.
- Consider purchasing a water/energy efficient clothes washer/dishwasher.
- Repair leaky toilets and faucets.
- Use water-saving habits such as washing full loads only. Turn off the faucet when you shave or brush your teeth, and take shorter showers.
- Install low flow showerheads.
- Look for the WaterSense label on new plumbing fixtures.

Nearly 1/3 of the water demand in the summer is used outdoors.

- Water late in the evening or early in the morning.
- Consider drought tolerant plants and native plants in your landscape.
- Use soaker hoses or install drip irrigation.
- Repair broken irrigation system sprinkler heads.
- Water lawns no more than 1 inch per week using a shallow can to measure.
- Install a rainwater collection barrel.
- Wash your car in a commercial car wash that recycles.

Bremerton Water is a Great Value

Your water rates pay for delivering high-quality water to your tap and keeping the water system in top condition. City customers pay water rates among the lowest in Washington State and nationwide. We are able to keep rates low through ownership of the watershed, conscientious system operation and maintenance, and award of ARRA funding for our Advanced Disinfection facility completed in 2011.

Customer's Views Welcome

Public Works & Utilities Department
100 Oyster Bay Avenue N • Bremerton, WA 98312

Please call Customer Response at 360-473-5920 or e-mail Bremerton1@ci.bremerton.wa.us with any questions.

The Bremerton City Council meets Wednesdays at 5:30 p.m. at the Norm Dicks Govt Center, 345 6th Street, Bremerton.

For billing information call 360-473-5316.
For flushing instructions call our Water Hotline at 360-473-5490.

Visit the City's website at www.BremertonWA.gov/e-News and sign up for e-News to receive updates about the City of Bremerton.



Celebrate National Drinking Water Week
First Full Week of May

Call 360-473-5920 for more information.