



DEPARTMENT OF THE NAVY

JOINT BASE ANACOSTIA- BOLLING
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Ser PRJ4/108
June 30, 2020

From: Commanding Officer, Joint Base Anacostia-Bolling
To: Joint Base Anacostia-Bolling Mission Partners
Joint Base Anacostia-Bolling Tenant Organizations

Subj: 2019 ANNUAL DRINKING WATER QUALITY REPORT

Encl: 2019 Annual Drinking Water Quality Report for Joint Base Anacostia-Bolling (JBAB)

1. In accordance with federal drinking water regulations, JBAB is providing you with the 2019 Annual Drinking Water Quality Report for Public Water System ID DC0000004.
2. This routine report is required by law, and is being provided to ensure that you have all of the information regarding the quality of your drinking water. This is not being sent in response to a health threat or concern.
3. The 2019 Annual Drinking Water Quality Report for JBAB provides information regarding drinking water monitoring conducted throughout calendar year 2019. The 2019 sampling results presented in this report demonstrate that the installation's drinking water met the water quality standards established by the Safe Drinking Water Act as regulated by the U.S. Environmental Protection Agency.
4. If you have any questions regarding the quality of your drinking water, contact the JBAB Drinking Water Program Manager at 202-404-1273.

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2019

Water Quality Report



Joint Base Anacostia-Bolling

A Message from the Installation Environmental Program Director

Dear Valued User,

Joint Base Anacostia-Bolling (JBAB) is committed to safeguarding the health of the installation's personnel, their families, and anyone who may utilize its JBAB Public Water System. Ensuring safe drinking water is a top priority of the JBAB Public Works Department and the 2019 sampling results presented in this report demonstrate that the installation's drinking water met the water quality standards established by the Safe Drinking Water Act and regulated by the U.S. Environmental Protection Agency (EPA). Please take this opportunity to learn more about your drinking water and if you have questions, concerns or suggestions, please call, or email, the JBAB Drinking Water Program Manager whose contact information is provided at the end of this report.

Sincerely,

Paul D'Ornellas

Paul D'Ornellas

Environmental Program Director



SOURCE WATER

CONTAMINANTS THAT MAY BE PRESENT

Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining or farming.

Organic chemical contaminants, including synthetic and volatile organic chemicals, which are byproducts of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.

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



The sources of tap 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 animal or human activity.

SENT IN SOURCE WATER INCLUDE:

Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff and residential uses.

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

Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife.

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 Safe Drinking Water Hotline at **1-800-426-4791**.

The Source of Your Drinking Water

Drinking water for the District of Columbia (DC) is sourced from the Potomac River, a surface water supply. DC Water purchases the treated drinking water from the U.S. Army Corps of Engineers, Washington Aqueduct (Aqueduct), and then sells the finished water to JBAB. The Aqueduct withdraws approximately 140 million gallons of water each day from the Potomac River at the Great Falls and Little Falls intakes and treats the water at two treatment plants, Dalecarlia and McMillan. The Aqueduct filters and disinfects water from the Potomac River to meet safe drinking water standards. The treatment process includes sedimentation, filtration, fluoridation, pH adjustment, primary disinfection using free chlorine, secondary disinfection with chloramines through the addition of ammonia, and corrosion control with orthophosphate. DC Water conducts water quality monitoring throughout the city to ensure that the water it provides meets safe drinking water quality standards; for more information on DC Water's quality please visit their website at <https://www.dewater.com/waterquality>.

JBAB's Public Water System (PWS) operates as a consecutive water system that receives treated water from the local utility, DC Water. JBAB's PWS consists only of distribution (i.e. does not perform treatment or have storage). Please note that although there are two distinct distribution systems on JBAB, one that serves the former Naval Support Facility Anacostia side, and one that serves the former Bolling Air Force Base side, U.S. EPA consolidated the two systems under one PWS identification number in 2017. Per Navy policy, JBAB performs routine regulatory sampling and monitoring activities on its PWS and 2019 results are contained within Tables 1, 2, and 3 of this report.

U.S. EPA Region 3, as the drinking water primacy agency for the District of Columbia, funded the update and completion of the Source Water Assessment of the Potomac River watershed in early 2020. Horsley Witten was contracted to consult with public water utilities and state agencies to create this update. This "report" is in the form of an innovative web based storyboard containing interactive links and a visual representation of the updated information. The intention was to provide the resource managers, scientists, and interested citizens with a more interactive, user friendly way of assessing the data through a GIS platform to better understand source water protection. The storyboard can be found at:

<https://epa.maps.arcgis.com/apps/Cascade/index.html?appid=25bd8df30dcb4f729b8c617d1e0ac4c9>

WATER QUALITY ANALYSIS DATA

In order for the Aqueduct to be aware of the initial concentration of *Giardia* and *Cryptosporidium* contaminants in the surface water prior to treatment, it performs regular monitoring.

Giardia

The Aqueduct monitored for *Giardia* in the source water (Potomac River) by collecting samples from the Little Falls and/or Great Falls intakes every month in 2019. *Giardia* cysts were detected in nine samples with a concentration ranging from 0.093 to 0.744 cysts per liter. *Giardia* is effectively removed through the Aqueduct's treatment process.

Cryptosporidium

The Aqueduct monitored for *Cryptosporidium* in the source water (Potomac River) by collecting samples from Little Falls and/or Great Falls intakes every month in 2019. *Cryptosporidium* was detected in 3 samples with a concentration ranging from 0.095 to 0.279 oocysts per liter in 2019. *Cryptosporidium* is a microbial pathogen found in most surface water in the U.S. Once *Cryptosporidium* is detected in the source water, Washington Aqueduct is required to ensure that their drinking water treatment system is adequate to control *Cryptosporidium*.

Ingesting *Cryptosporidium* may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. *Cryptosporidium* must be ingested to cause disease, and it may be spread through means other than drinking water. Most healthy individuals can overcome the disease within a few weeks. However, immuno-compromised people are at greater risk of developing a life-threatening illness. JBAB encourages immuno-compromised individuals to consult their doctor regarding appropriate precautions to take to avoid infection.

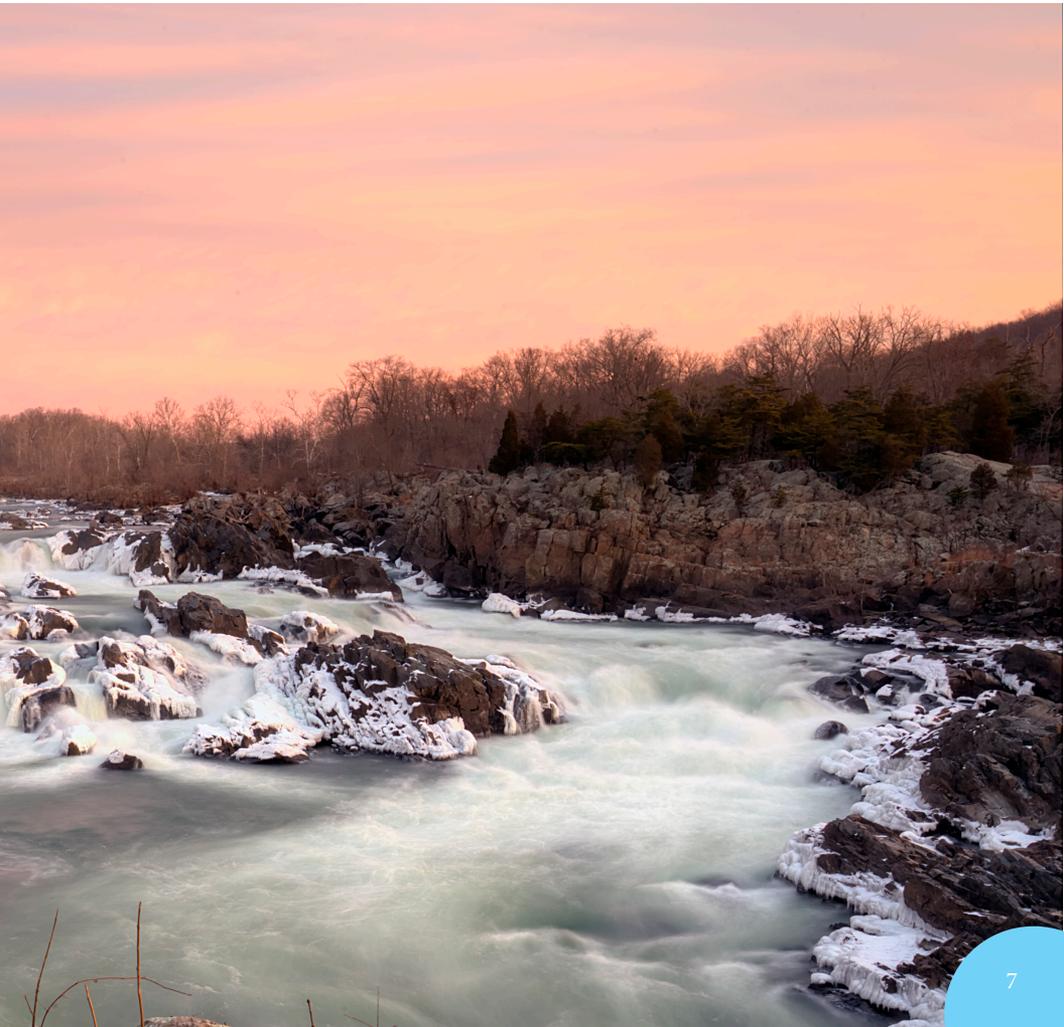
SPECIAL PRECAUTIONS

Some individuals may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised individuals such as those with cancer and undergoing chemotherapy, those who have undergone organ transplants, those with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These individuals should seek advice about drinking water from their health care providers. The U.S. EPA and Centers for Disease Control and Prevention (CDC) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at **1-800-426-4791**.



LEAD IN DRINKING WATER

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 2 minutes before using water for drinking or cooking. JBAB met EPA standards for lead in 2019 (see Tables 1& 2). If you are concerned about lead in your water, please contact JBAB's Drinking Water Program Manager at 202-404-1273. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline (1-800-426-4791) or at <http://www.epa.gov/safewater/lead>.



REGULATED SUBSTANCES 2019:

SUBSTANCE (UNITS)	MCLG	MCL	Highest
Total Coliform Bacteria	0	1 positive/ month	0
E. Coli Bacteria	0	0	0

SUBSTANCE (UNITS)	MRDLG	MRDL	HIGHEST ANNUAL AVERAGE	RANGE
Chlorine (ppm)	4	4	2.1	0.03-4.50

SUBSTANCE (UNITS)	MCLG	MCL	HIGHEST ANNUAL AVERAGE	RANGE
Haloacetic Acids (ppb)	N/A	60	38	11-51
Total Trihalomethanes (ppb)	N/A	80	49	10-76

SUBSTANCE (UNITS)	MCLG	MCL	ANNUAL AVERAGE	RANGE
Nitrate (ppm)	10	10	2.4	2.4-2.5
Nitrite (ppm)	1	1	<0.20	ND (0.10-0.20)

SUBSTANCE (UNITS)	MCLG	AL	RANGE AND 90TH PERCENTILE	SITES ABOVE AL
Copper (ppm)	1.3	1.3	8.8 to 490 90th Percentile is 139	0
Lead (ppb)	0	15	0 to 17 90th Percentile is 0	1

TABLE 1- Anacostia Side

VIOLATION	TYPICAL SOURCE	COMMENTS
No	Coliforms are naturally present in the environment; as well as feces; fecal coliforms and <i>E. coli</i> only come from human and animal fecal waste.	Zero samples tested positive for Total Coliform and/or E. Coli Bacteria.
No		
VIOLATION	TYPICAL SOURCE	COMMENTS
Yes	Water additive that protects against microbial contamination. Chlorine is combined with ammonia to form chloramine.	See violation section comment ¹ and ²
VIOLATION	TYPICAL SOURCE	COMMENTS
Yes	Haloacetic acids are a byproduct of drinking water disinfection	See violation section comment ³ .
Yes	Trihalomethanes are a byproduct of drinking water disinfection	
VIOLATION	TYPICAL SOURCE	COMMENTS
No	Runoff from fertilizer use; erosion from natural deposits	
No	Runoff from fertilizer use; erosion from natural deposits	
VIOLATION	TYPICAL SOURCE	COMMENTS
No	Corrosion of household plumbing systems; erosion of natural deposits	Lead and Copper data resulted from JBAB's most recent monitoring period, June to September 2018.
No	Corrosion of household plumbing systems; erosion of natural deposits	

REGULATED SUBSTANCES 2019:

SUBSTANCE (UNITS)	MCLG	MCL	HIGHEST
Total Coliform Bacteria	0	1 positive/ month	0
E. Coli Bacteria	0	0	0

SUBSTANCE (UNITS)	MRDLG	MRDL	HIGHEST ANNUAL RANGE	RANGE
Chlorine (ppm)	4	4	1.6	0.00-4.40

SUBSTANCE (UNITS)	MCLG	MCL	HIGHEST ANNUAL RANGE	Range
Haloacetic Acids (ppb)	N/A	60	40	12.9-73.5
Total Trihalomethanes (ppb)	N/A	80	31	8.6-44.9

SUBSTANCE (UNITS)	MCLG	MCL	ANNUAL AVERAGE	RANGE
Nitrate (ppm)	10	10	1.7	1.7-2.0
Nitrite (ppm)	1	1	N/A	N/A

SUBSTANCE (UNITS)	MCLG	AL	RANGE AND 90th PERCENTILE	SITES ABOVE AL
Copper (ppm)	1.3	1.3	8.8 to 490 90th Percentile is 139	0
Lead (ppb)	0	15	0 to 17 90th Percentile is 0	1

TABLE 2- Bolling Side

VIOLATION	TYPICAL SOURCE	COMMENTS
No	Coliforms are naturally present in the environment; as well as feces; fecal coliforms and <i>E. coli</i> only come from human and animal fecal waste.	Zero samples tested positive for Total Coliform and/or E. Coli Bacteria.
No		
VIOLATION	TYPICAL SOURCE	COMMENTS
Yes	Water additive that protects against microbial contamination. Chlorine is combined with ammonia to form chloramine.	See violation section, comments ¹ and ² .
VIOLATION	TYPICAL SOURCE	COMMENTS
Yes	Haloacetic acids are a byproduct of drinking water disinfection	See violation section, comment ³ .
Yes	Trihalomethanes are a byproduct of drinking water disinfection	
VIOLATION	TYPICAL SOURCE	COMMENTS
No	Runoff from fertilizer use; erosion from natural deposits	Monitoring for Bolling Nitrite is Triennial. Will occur again in August of 2021.
No	Runoff from fertilizer use; erosion from natural deposits	
VIOLATION	TYPICAL SOURCE	COMMENTS
No	Corrosion of household plumbing systems; erosion of natural deposits	Lead and Copper data resulted from JBAB's most recent monitoring period, June to September 2018.
No	Corrosion of household plumbing systems; erosion of natural deposits	

VIOLATIONS

¹Explanation of Violation: JBAB reported disinfectant residual for December 2018 and January 2019 showing greater than 5% of distribution system samples with chlorine residual less than 0.10 mg/L and associated heterotrophic plate count in excess of 500 CFU. Therefore, JBAB was in violation of the Filtration and Disinfection Rule. After, proving that JBAB had adequate disinfectant residual for February 2019 and March 2019, JBAB returned to compliance, therefore the violation was corrected.

Length of Violation: December 2018-End of March 2019

Potential Adverse Health Effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Actions Taken by JBAB to Address Violation: JBAB rigorously flushed internal to and external to the effected building. This included opening all faucets on a regular basis to ensure water turnover was occurring.

²Explanation of Violation: JBAB reported disinfectant residual for July and August 2019 showing greater than 5% of distribution system samples with chlorine residual less than 0.10 mg/L and associated heterotrophic plate count in excess of 500 CFU. Therefore, JBAB was in violation of the Filtration and Disinfection Rule. After, proving that JBAB had adequate disinfectant residual for September 2019 and October 2019, JBAB returned to compliance, therefore the violation was corrected.

Length of Violation: July 2019 - End of October 2019

Potential Adverse Health Effects: Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches.

Actions Taken by JBAB to Address Violation: JBAB rigorously flushed internal to and external to the effected building. This included opening all faucets on a regular basis to ensure water turnover was occurring.

³Explanation of Violation: During the July to September 2019 monitoring period, half of the required samples that were collected in August were not able to be analyzed due to laboratory error. JBAB consequently missed the collection date specified in the Stage 2 sampling plan due to the lab error, therefore triggering a violation of the Disinfection Byproduct Rule. JBAB collected additional samples to account for the laboratory error in September 2019, resolving this violation. This Water Quality Report serves as the Tier 3 Public Notification. No alternate water supplies are needed, and no actions are needed by the consumer. Please distribute this notification to anyone who might not have received it.

VIOLATIONS CONT.

³Continued:

Length of Violation: August 2019- September 2019

Potential Adverse Health Effects: We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not your drinking water meets health standards. During the July to September 2019 monitoring period, we did not complete all monitoring or testing for Stage 2 Disinfection Byproducts, and therefore cannot be sure of the quality of your drinking water during that time.

Actions Taken by JBAB to Address Violation: JBAB had our sampling contractors contact the lab to go over why the error occurred and how to prevent future errors.

⁴Explanation of Violation: JBAB received an Administrative Order on Consent from EPA on 21 February 2019. This details two reoccurring deficiencies that JBAB must resolve and report on quarterly. These deficiencies include 1) Keeping Meter Vaults Dry. 2) Cross Connection Control program. JBAB had issues with repairing all backflow preventors within the 10-day requirement.

Length of Violation: Ongoing; JBAB reports on these items quarterly to EPA until they deem all violations are no longer occurring.

Potential Adverse Health Effects: These are deficiencies which EPA determined to be causing, or have the potential for causing the introduction of contamination into the water delivered to consumers.

Actions Taken by JBAB to Address Violation: 1) JBAB has since installed working pumps at all meter vaults to ensure they remain dry. 2) JBAB has since contracted this portion out and was able to repair all backflows within the required time-frame. JBAB does not foresee any issue with repairing backflows for this calendar year.

UNREGULATED CONTAMINANT MONITORING RULE

JBAB Bolling participated in EPA's fourth round of the Unregulated Contaminant Monitoring Rule (UCMR4). Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. As part of JBAB-Bolling's UCMR4 monitoring program samples were collected and analyzed beginning in February 2019 through November 2019. Table 3 lists those sample results received by JBAB Bolling during 2019. As our customers, you have a right to know that this data is available. If you are interested in learning more about the results, please reach out to the contact person listed at the end of this report.

UNREGULATED SUBSTANCES 2019:

SUBSTANCE (UNITS)	MCLG	MCL	AVERAGE
HAA5	N/A	N/A	33.1 ug/L
HAA6Br	N/A	N/A	8.6 ug/L
HAA9	N/A	N/A	40.4 ug/L
Germanium	N/A	N/A	ND
Manganese	N/A	N/A	0.78 ug/L
Alpha-hexachlorocyclohexane	N/A	N/A	ND
Profenofos	N/A	N/A	ND
Chlorpyrifos	N/A	N/A	ND
Tebuconazole	N/A	N/A	ND
Dimethipin	N/A	N/A	ND
Total Permethrin	N/A	N/A	ND
Ethoprop	N/A	N/A	ND
Tribufos	N/A	N/A	ND
Oxyfluorfen	N/A	N/A	ND
1-butanol	N/A	N/A	ND
2-propen-1-ol	N/A	N/A	ND
2-methoxyethanol	N/A	N/A	ND
butylated hydroxyanisole	N/A	N/A	ND
o-toluidine	N/A	N/A	ND
quinoline	N/A	N/A	ND
total microcystins	N/A	N/A	ND
cylindrospermopsin	N/A	N/A	ND
anatoxin-a	N/A	N/A	ND

TABLE 3 (All Results Received in 2019)

RANGE	VIOLATION	COMMENTS
10.5 - 50.1 ug/L	No	
2.5-12.3 ug/L	No	
12.8-69.8 ug/L	No	
N/A	No	
0.61-0.88 ug/L	No	
N/A	No	
ND-0.06 ug/L	No	
N/A	No	
N/A	No	

TABLE DEFINITIONS

Action Level (AL): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements by the water supplier.

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

Maximum Contaminant Level (MCL): 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.

Maximum Residual Disinfectant Level Goal (MRDLG): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants. Compliance with the MRDL is based on the highest Quarterly Running Annual Average.

N/A: Not applicable.

ND: Not detected at testing limit.

Parts Per Billion (ppb): One part substance per billion parts of water (or micrograms per liter).

Parts Per Million (ppm): One part substance per million parts of water (or milligrams per liter).

Treatment Technique (TT): Required process intended to reduce the level of a contaminant in drinking water.

90th Percentile Detection: Result from a set of lead and copper samples that is used to determine if the water system will be required to implement additional actions. Action is only required should the 90th Percentile sample be higher than the Action Level listed for either copper or lead.

WHAT CAN I DO TO IMPROVE WATER QUALITY?

As a user, you play a larger role in enhancing the water quality within the building. Here are a few actions that can be taken to prevent water quality degradation and even contamination.

- **Flush Lines After Extended Periods of Stagnation** - Often buildings will shut down over weekends and holidays. Following extended days of water stagnation, flush a tap at the furthest end of the building from where the water originates on each floor for 15 minutes. In addition, flush each frequently used fountain/tap for 2 minutes.
- **Maintain Water Fountains** - Many fountains have filters that remove chlorine taste, reduce byproducts of chlorine, and reduce sediments and particulate metals such as lead, copper, and iron which can leach from in-house plumbing. However, without routine maintenance and changing of these filters as recommended by the manufacturer, water quality will diminish considerably. Carbon filters that are not changed will eventually accumulate enough nutrients for bacteria to grow. As bacteria activity increases, their byproducts can reduce water quality. Another common water filter is a sediment filter. If these filters are not routinely changed they will begin to accumulate excessive amounts of metals which may eventually break through the filter or leach into the water during times of excessive stagnation, which may be considered any period greater than six (6) hours without water use.
- **Clean Strainers/Aerators** - Periodically remove and clean the strainer/aerator device on faucets in the building to remove debris.
- **Keep Water Coolers Clean** - Many buildings purchase bottled water coolers for drinking water purposes. Unlike tap water, the water provided in these coolers contains no disinfectant and therefore provides the potential for bacterial growth in the cooler dispenser. Coolers must be routinely cleaned as prescribed by the manufacturer.
- **Water Conservation** - For information on what you can do to conserve water, please visit www.epa.gov/watersense.

MAINTAINING HIGH WATER QUALITY

What is the difference between building pipes and distribution mains?

Building pipes and distribution mains both move water. The difference is how fast the water is moving. Distribution mains typically have high water velocities that keep water fresh because of the continuous demand on the system. However, once the water leaves the main and enters a customer's service line, the water only turns over as fast as consumers use it. Water in buildings has the tendency to stagnate during off-work hours or vacation times.

Buildings also tend to keep water warmer, which can deteriorate water quality and at times create taste and odor issues. JBAB is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components.

For more information about your drinking water, please contact Anna Callahan, Drinking Water Program Manager at (202) 404-1273, or at anna.callahan@navy.mil

Este reporte contiene información importante sobre el agua potable que usted consume. Para obtener una traducción del reporte, por favor comuníquese con la Oficina de Asuntos Públicos al (202) 404-8863. Si necesita la asistencia de un traductor con respecto a información sobre DC Water, favor de contactar DC Water Asistencia al Cliente al (202) 354-3600 (8am a 5pm, Lunes a Viernes).

Joint Base Anacostia-Bolling

