

KENT COUNTY WATER AUTHORITY

CONSUMER CONFIDENCE
WATER QUALITY



**ANNUAL REPORT
2016**

KCWA Consumer Confidence Water Quality 2016 Annual Report

This year's report covers all testing completed from January 1, 2016 through December 31, 2016 and fulfills both the Environmental Protection Agency (EPA) and Rhode Island Department of Health (RIDOH) requirements to provide a "Consumer Confidence Report" to our customers. This publication reflects our ongoing efforts to keep you informed about the quality of the water and services we deliver to you every day.

We remain committed to producing drinking water that meets all state and federal drinking water standards. This report includes information related to the origin of your water, what it contains, and how it compares to the quality standards set by the EPA. Be assured, the Kent County Water Authority and the professional staff are committed to providing our customers with the finest, most cost effective and reliable drinking water.

The Kent County Water Authority and its predecessor companies have been delivering safe, dependable water, seven days a week, 24 hours a day for 137 years. We endeavor to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water quality and safety emerge, we remain vigilant in meeting these demands while continuing to serve the needs of our customers. It's important to understand the facts about the quality of your drinking water. The information provided in this document reflects the pertinent results from public water system regulatory testing requirements. Through our monitoring and testing efforts we have found that some regulated constituents have been detected. EPA and RIDOH regulatory guidance reflects that your water is SAFE at these levels. This report explains the quality of your drinking water, its sources, and an overview of the water system, our future goals, progress and more. Should you have any questions concerning this information or about your water utility, please contact our General Manager/Chief Engineer, Timothy J. Brown, P.E. at 401-821-9300 or customerservice@kentcountywater.org. Customer concerns regarding Providence Water results should be directed to the Customer Service Department of the Providence Water Supply Board at 401-521-6300.

The Kent County Water Authority and its predecessor companies have been delivering safe, dependable water, seven days a week, 24 hours a day for 137 years.

We value our customer feedback. Public participation adds value to the decision making process regarding the quality of your water and the service you are provided. If you would like to learn more about your water utility or play a part in its future, please feel free to attend any of our regularly scheduled board meetings held on the third Thursday of each month. Meeting agenda information can also be found on the Secretary of State website, http://sos.ri.gov/openmeetings/index.php?page=view_entity&id=393 Meetings begin at 3:30 p.m. at our office located at 1072 Main Street, West Warwick. We look forward to seeing you there!

SELLING YOUR HOME OR COMMERCIAL PROPERTY

The standard closing information request must be presented to the Kent County Authority for any sale or conveyance of property currently receiving public water service. Often times we find that this form is completed by your realtor or attorney. The processing of this form provides vital account information to the Kent County Water Authority. This form is the mechanism to inform the seller and purchaser concerning outstanding billing amounts and identification of any possible service connection compliance defect issues that must be corrected to be in compliance with current rules and regulations for service.

Most lending institutions allow 45-60 days to process the closing on a property transaction. It is imperative that the Kent County Water Authority be notified well in advance of the closing date to conduct an on site service connection compliance inspection as part of processing the closing form request. The earlier the closing form is received in advance of the closing date the less likely your closing may incur delay due to an unforeseen compliance issue that may need to either be remedied or negotiated between the seller and purchaser for correction as part of the terms of the sale before the lending institution will close on the property.

Rules and Regulations

The Kent County Water Authority Rules and Regulations represent the written guidance outlining both the water utility and customer responsibilities concerning things like billing, maintenance, ownership guidelines and other important issues. In replying to customer inquiries we have found that customers often convey that they are unaware of the customer responsibilities delineated in the Rules and Regulations. This can sometimes leave our valued customers in precarious situations when a repair may be required or a change

in property ownership is about to occur. The acceptance of public water supply from the Kent County Water Authority represents a contract between the customer and water utility. Each party's responsibilities are described in the applicable sections of the Kent County Water Authority Rules and Regulations. To help better understand each party's responsibilities we strongly recommend that all customers periodically review the Kent County Rules and Regulations to keep current and stay abreast of any changes that may occur from time to time. Please feel free to contact any of our customer service representatives anytime you have a question or concern. A copy of the Kent County Rules and Regulations is available at our main office, or online at www.kentcountywater.org.

Emergency Mass Notification System

In our continuing effort to keep our customers better informed we have recently implemented the use of the SmartNotice system. SmartNotice allows KCWA officials to deliver a prerecorded, tailored message, to either an entire community or a select portion of a city, advising residents about emergency and/or important system maintenance information regarding the drinking water system. SmartNotice allows us to quickly reach customers and area residents using telephone, email, and/or text communication. The SmartNotice system is a product line of the same Emergency Communication Network that handles the familiar CodeRED community notification system, with the exception that SmartNotice has been specially tailored for utility applications. Be prepared to receive a phone call, email, or text from our new emergency notification system should a drinking water emergency or important system maintenance arise in your area.

The basic SmartNotice telephone databases has its limitations as it is derived from the listings that are in the local printed telephone directories. To ensure you are included in our customer notification database it is imperative that every customer visit our website <http://www.kentcountywater.org/emergency-information.aspx> and register your cell phones, home phone and any unlisted phone numbers you wish to receive notifications on to ensure you are fully capable of receiving notifications. Even if you live in a community that already uses CodeRED you will still need to enroll in SmartNotice so you can get messages specific to your drinking water. All numbers will remain confidential and will be used only to communicate drinking water emergencies and other important information regarding the public water system.

If you are reading this online follow this link to sign up today
<https://public.coderedweb.com/CGE/BF0FB15C3487>



Website Improvements Make Payments Easier

In August 2014, website enhancements facilitated the implementation of online bill payment by credit card and electronic check on the Kent County Water Authority website www.kentcountywater.org. Additional information on credit card and electronic check payment methods can be obtained online or by contacting any of our customer service representatives at (401) 821-9300.

Change in Payment Remittance Address

Offsite lock box payment processing was implemented in 2016 and has been a great success to more efficient payment process. This process allows customer service representatives to be more effective in the meeting the needs of our valued customers and meeting the compulsory regulatory demands on a public water system. The mailing address for your [water bill payments](#) is: P. O. Box 9901, Providence, RI 02940. We will continue to accept payments at our office located at 1072 Main Street, West Warwick, RI, however, the most efficient payment methods are remittance by mail and online credit card bill payment.

We always appreciate value added suggestions from our customers. These suggestion do make a difference in our efforts to continue to improve our processes in the service to our customers.

Bill Presentation Enhancements

The positive customer input about the new bill format is a testament to the customer input we acted on in the development of the new bills. The opportunity to improve our billing process through outsourcing printing and mailing has been a great success. We certainly appreciate the encouraging customer input we have received on this endeavor to better serve you.

Infrastructure Improvements

Kent County Water Authority distribution and transmission mains comprise a network of more than 484 miles of underground infrastructure, storage tank facilities, and a multitude of pumps, wells and pressure control stations that must be continually maintained. Rhode Island General Law 46-15.6 requires that all large water suppliers implement an infrastructure replacement program to address such things as aged and failing mains, rehabilitation of tanks and pumping stations. Each water system throughout the state is required by law to provide a funding mechanism to replace and/or rehabilitate identified components at the end of their useful life within the framework of the regulations. We have a number of projects under construction and in the design phases. These contracts will replace underground water infrastructure including mains, service pipe, valves and hydrants. As you might expect, water rates pay for the replacement of old and failing infrastructure. Costs associated with the infrastructure improvement program are incorporated in the rate structure for your billing. The rate structure and each infrastructure improvement program is fully reviewed and approved by the Public Utilities Commission (PUC) prior to commencing work on the planned improvements. At the current PUC approved rate water costs less than a penny per gallon delivered to your home. Water is still the best bargain in town in comparison to bottled water or other utility and cable services.

We are very pleased that the planned projects brought to final completion this past year improved water quality and overall service to our customers.

In the year of this report much of the work occurred in Warwick, West Warwick and a cost saving initiative to replace water mains as part of the RI Department of Transportation Apponaug Circulator Project. Ideally we strive to achieve the most amount of work with the least amount of cost impact to our customers. Infrastructure replacement improves water quality and the service you receive. Aging water mains, tanks and pumping stations must be systematically replaced to extend these costs over the life cycle of the asset. We are very pleased that the planned projects brought to final completion this past year improved water quality and overall service to our customers. Additionally, the roadways were paved curb to curb as part of the water infrastructure projects without any municipal cost sharing. This represents a great investment in your community without an increase burden on the municipal tax budget.

Capital Improvements

Capital improvement projects are intrinsic components to the future of the water supply system. These types of projects are aimed at improving water quality, regulatory compliance initiatives, and supply improvements that better serve our customers.

Our revised 2017-2022 Capital Improvement Plan (CIP) is available online at (<http://kentcountywater.org/config/rpts-tech/Final2016UpdateCIPReport.pdf>). The plan maintains consistency with the principles and strategic goals of the Authority and its commitment to:

- Provide a consistent source of high quality, potable water for public consumption and fire protection;
- Reduce overall short and long-term maintenance costs;
- Coordinate water system improvements to comply with local and federal guidelines for consistent management and operation of a public water supply system;
- Planning to meet future economic and residential growth in the service district.



The CIP consists of a system-wide evaluation to produce a detailed plan for installation of new infrastructure required to improve the water system's operation and maintenance. It provides a planning document with systematic approach to implementing projected short-term (immediate) and long-term (out to 5-year) needs and requirements. The evaluation phase includes essential enhancements that are focused on future improvements in water supply, storage, pumping, treatment, transmission and distribution systems necessary to meet regulatory requirements and overall water system service needs of the communities we serve. The plan is routinely reviewed in order to re-prioritize, modify and update projects from previous CIP's based on economic growth patterns and supply needs throughout the service area. As the system grows, supply, service and projected administrative needs are incorporated into this planning document that is reviewed by several state and municipal entities.

Protecting Your Watershed Protects You and Your Family

Clean, safe potable water starts at the source. Contaminants are mainly introduced to the watershed in what has been termed as point and non-point source contaminates. Point source pollution is that which can be traced to a specific source such as a factory, farm, leaking fuel tank or industrial site. Non-point source contaminants are more difficult to manage because they represent small, but cumulative contributions from each of us such as paint thinner, antifreeze and pesticides. It doesn't take long for our shelves to become cluttered with half-empty containers of chemicals. Chemicals, pharmaceuticals or pollutants inadvertently put down a sink or street drain, or over application of fertilizer or pesticides sprayed around a foundation increase the occurrence of watershed contamination because they leach and travel with rain water to the aquifers that supply your drinking water.

Responsibility in establishing future land use protection strategies, zoning and growth projections for municipalities falls squarely on each city and town through legislative empowerment in Rhode Island General Law 45-22.2-3. We cannot over emphasize that the decisions made by your municipal leaders ultimately affect the quality and overall cost of your drinking water. Public participation is key in the protection of these sensitive drinking water sources. Your input is a critical component to the city and town land use decision making process regarding these sensitive drinking water aquifers and critical recharge areas within your communities.

We have tried to make these areas more visible by installing wellhead protection signs within existing wellhead protection areas as an indicator of the proximity of your drinking water sources located in the towns of Coventry, East Greenwich and West Greenwich. We hope these signs have helped to increase public awareness and appreciation of the vital groundwater resources in these areas. We urge you to contact your city or town council member and zoning official to see what else can be done to protect these resources. Public participation in the zoning decision making process is instrumental to protecting your drinking water resources. We think of our customers who live within these areas as the guardians of these essential resources. Your help to preserve these critical drinking water sources will be eternally appreciated by your future family and friends who must perpetually rely on them. Please contact us or the Rhode Island Department of Environmental Management at 401-222-3070 if you suspect a potential contamination concern exists.



The Pawtuxet, Mishnock and Hunt River aquifers and adjacent lands comprise the watersheds from which groundwater supply is drawn. There has been growing concern that groundwater withdrawal exceeds the recharge from some of these groundwater supplies. It should be noted that ninety to ninety-eight percent of household water use ends up down the drain. The water that goes down the drain ends up in either a septic system or in a public sewer system. Septic systems, or Onsite Wastewater Treatment Systems (OWTS), return water to the underground reservoirs from discharge water exiting OWTS leach fields. In contrast, public sewers provide conduits for the conveyance of wastewater to local public treatment facilities. The ferrying of water out of any recharge basin via sewers exacerbates groundwater depletion by redirecting a critical replenishment supplies out of the basin. Also, these treatment facilities are required to produce an effluent discharge that, in many instances, exceeds drinking water quality standards to protect the highly sensitive flora and fauna in receiving rivers, estuaries, bays and eventually the Atlantic. This represents millions of gallons of fresh water and hundreds of thousands of dollars each day discharged out of aquifer recharge areas and into salt water. Many states are now embracing the concept of returning treated wastewater from their treatment plants to its origins in an effort to benefit the environment and keep aquifers from becoming stressed. This is often a concept that is not readily accepted by the general public and heavily stigmatized in many areas of the world. However, what many people do not think about is that nature has been doing this, granted much more slowly, since the dawn of time without prejudice. Advancements in treatment technology for speeding up natural water purification processes are well understood and readily available. There are several case studies where treated wastewater reuse was safely and successfully implemented using current available technology, specifically membrane

technology. This idea should be seriously reviewed by our regulatory bodies and planners when faceting together a multi-pronged initiative to preserve and conserve fresh water resources in Rhode Island. Take the opportunity to investigate these ideas and voice your opinion to promote this type of cost saving conservation initiative to your state representatives. We spend millions of dollars each year treating wastewater to drinking water quality. Why not put this effort to full circle resource recovery. There is no better way to recycle and conserve our most precious resource.

Statewide Water Use and Efficiency Rules

During 2011 the Rhode Island Water Resources Board voted to approve new water use rules based on the new authorizing legislation. The regulations, http://www.wrb.ri.gov/policy_rules_wuea.html, require a reduction in customer use, capping it at 65 gallons per person per day. This limit includes all inside and outside water uses such as lawn and garden watering, car washing, pool filling, clothes washing, cleaning, drinking, cooking and any other water use. Some of the intervention highlights include but are not limited to:

- The retrofit installation of conservation plumbing fixtures and “WaterSense” appliances.
- Limits on the size of landscapes that require irrigation, amount of water that can be used and times for operation of irrigation systems.
- Seasonal and inclining block rate structures that increase the cost of use as consumption increases.
- Establishment of new plantings restricted to spring and fall only.
- Public education and water audits.

Many of these initiatives appear to fall under the purview and enforcement authority of city and town building and zoning officials, but so far only the water suppliers will be held accountable to if targets are not met. Rate structures will have to change to comply with the adopted regulations. Increased costs and outside water use moratoriums can be expected if customer use exceed the 65 gallons per person per day cap. Lifestyle changes are necessary to comply with these mandates. Please take the opportunity to research better ways to curtail and take better control of your everyday water use. Looking for and repairing leaks, reducing the time in the shower and doing full loads in your clothes and dishwasher are all great ways to implement conservation wise strategies in your home.

East Greenwich Well Supply

In 2016 work commenced on rehabilitation of the existing well facilities. The well field rehabilitation project incorporates design considerations and appurtenances necessary to make the facilities constructed under the rehabilitation project ready to coalesce with the future treatment facility planned under the Capital Improvement funded portion of this facility plan. The rehabilitation and construction is slated to be completed by the latter part of 2017.

We will continue using manganese sequestering, corrosion control, and disinfection techniques until the future full scale treatment facilities are funded and constructed. Manganese is not regulated under federal and state primary drinking water health standards. This mineral is a harmless aesthetic aspect of New England groundwater supplies that may be more noticeable to some consumers due to the use of chlorinated cleaning products. We implemented the Manganese Sequestering Treatment Program to contend with plumbing staining complaints from our Warwick/East Greenwich distribution area. The goal of this program is to attempt to eliminate the staining effects related to the precipitation of soluble manganese in the source water supply. So far this program has been effective, but our customers must remain vigilant in following our suggestion to not use chlorinated dishwashing detergents, chlorine bleach laundry products or monthly drop-in toilet tank cleaning products that contain chlorine. These types of products tend to promote the occurrence of staining despite the interim use of the sequestering treatment regime. Certainly, feel free to contact us at 401-821-9300 or customerservice@kentcountywater.org if you have any questions about our proposed programs or would like to discuss aspects of the water supply with one of our customer representatives.

(continued on page 17)



Kent County Water Authority Water Quality Data

The tables list all of the drinking water constituents detected during the calendar year of this report. The presence of those constituents found in the water at the time of testing does not necessarily indicate that the water poses a health risk. Unless otherwise noted, the data presented in these tables are from testing done in the calendar year of the report. In some cases the EPA and the state may require us to monitor for certain constituents less than once per year because the concentrations of these constituents do not change frequently.

Kent County Water Authority routinely monitors for constituents in your drinking water in compliance with federal and state laws. This table shows the detection results from the numerous monitoring tests conducted for the period January 1, 2016 to December 31, 2016. The tables of "Testing Results" identify those constituents that were "detected" in both the Kent County Water Authority and Providence Water Supply sources. As authorized by the EPA, the state has implemented reduced monitoring requirements for certain contaminants to less often than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of our data, though representative, is more than one year old.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL	MCLG	DETECTED	RANGE	MAJOR SOURCES	VIOLATION
BARIUM (1)(2)	2016	ppm	2	2	0.01	N/A	Erosion of natural deposits.	NO
CHROMIUM	2014	ppb	100	100	5	0.24-5	Erosion of natural deposits.	NO
NITRATE (1)	2016	ppm	10	10	3.5	0.22-2.92	Erosion from natural deposits. Leaching from septic tanks; sewage; runoff from fertilizer use.	NO
TOTAL COLIFORM BACTERIA (5)	2016	Monthly Max%	Presence of Coliform bacteria in >5% of the monthly samples	0%	1%	0-1%	Naturally present in the environment.	NO
FECALCOLIFORM OR E.COLI BACTERIA (5)	2016	N/A	0	0	1 Sample*	ND-1	Human or animal fecal waste.	NO
TURBIDITY (1)(4)	2016	NTU	TT	N/A	0.50	0.02-0.50	Soil runoff.	NO
TOTAL ORGANIC CARBON(1)(3)	2016	N/A	TT	N/A	1.59	1.59-1.71	Naturally present in the environment.	NO
CHLORINE FREE RESIDUAL	2016	ppm	4	4	0.53	0.31-0.74	Water additive used to control microbes.	NO
TOTAL TRIHALOMETHANES (TTHM)	2016	ppb	80	N/A	61	23-78	Byproduct of drinking water chlorination.	NO
HALOACETIC ACIDS (HAA5)	2016	ppb	60	N/A	17	7-23	Byproduct of drinking water chlorination.	NO
LEAD AND COPPER RULE	PERIOD	UNIT	AL	MCLG	90th PERCENTILE DETECTED	RANGE	MAJOR SOURCES	VIOLATION
COPPER	2015	ppm	1.3	1.3	0.013	0 of 32 samples were above the action level	Corrosion of household plumbing systems. Erosion of natural deposits. 0 sites out of 32 were above 1.3 ppm.	NO
LEAD	2015	ppb	15	0	4	2 of 32 samples were above the action level	Corrosion of household plumbing systems. Erosion of natural deposits. 2 out of 32 sites were above 15 ppb.	NO

Kent County Water Authority Table Footnotes:

- (1) Detection level influenced by Providence Water purchases.
- (2) Reflects sampling at groundwater source before blending with purchased water from Providence Water Supply Board.
- (3) In order to comply with the EPA standard, the removal ratio must be greater than 1. Detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.
- (4) 0.50 was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2016 was <0.10 NTU.
- (5) This value refers to the highest monthly percentage of positive samples detected during the year. For 2016 KCWA collected 1442 samples for Coliform Bacteria. Three samples were positive for coliform bacteria. One sample of which was also positive for E.coli bacteria. Repeat samples from the sites were tested the results of which were negative for both E.coli and Coliform bacteria.
- (6) MLC compliance is calculated using local running annual average (LRAA) for each monitoring location in the distribution system. KCWA currently has eight (8) sites sampled quarterly.
- (7) The state allows us to monitor some contaminants less than once per year because the concentrations of these contaminants do not change frequently. Some of our data, though representative, are more than one year old.

Table Unit Descriptions:

• AL	Action Level
• MCL	Maximum Contaminant Level
• MCLG	Maximum Contaminant Level Goal
• pCi/L	Picocuries Per Liter (a measure of radioactivity)
• ppb	Parts Per Billion or micrograms per liter
• TT	Treatment Technique
• NTU	Nephelometric Turbidity Units
• ppm	Part Per Million
• N/A	Not Applicable
• ND	None Detected
• HA	Health Advisory
• MRDL	Maximum Residual Disinfection Level
• MRDLG	Maximum Residual Disinfection Level Goal
• ng/l	Nanograms per liter

Important Drinking Water Definitions:

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.

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.

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

AL: Action Level; The concentration of a contaminant, which if exceeded, triggers a treatment of other requirements that a water system must follow.

MRDL: Maximum Residual Disinfectant Level; The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for the control of microbial contaminants.

MRDLG: Maximum Disinfectant Level Goal; The level of drinking water disinfectant below which there is no known or expected risk to health.

MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

Health Effects Information

Nitrate in drinking water at levels above the MCL of 10 ppm is a health risk for infants of less than six months of age. Infants below the age of six months who drink water containing nitrate in excess of the MCL of 10 ppm could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your healthcare provider.

Nitrite in drinking water at levels above the MCL of 1 ppm is a health risk for infants of less than six months of age. Infants below the age of six months who drink water containing nitrite in excess of the MCL of 1 ppm could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. Nitrite levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant, you should ask for advice from your healthcare provider.

MCLs are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day, at the MCL, for a lifetime to have a one-in-one-million chance of having the described health effects.

Additional Health Effects Information

The sources of drinking water (both tap and bottled water) include rivers, lakes, ponds, reservoirs, springs, and wells. As water travels over the land or through the ground, it dissolves naturally occurring minerals, radioactive material and can pick up substances or contaminants resulting from the presence of human or animal activities.

All sources of drinking water are subject to potential contamination from substances that are naturally occurring or manmade such as: microbes, inorganic and organic chemicals, and naturally occurring radioactive substances. All drinking water, including bottled drinking water, may reasonably be expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk. More information on contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline 800-426-4791 or visit the EPA web site <https://www.epa.gov/ground-water-and-drinking-water>.

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer who are 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 healthcare providers about drinking water. EPA and CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Water Drinking Hotline (800-426-4791).

Lead Informational Statement

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. Kent County Water Authority is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline or at <https://www.epa.gov/ground-water-and-drinking-water/basic-information-about-lead-drinking-water>.

Providence Water Quality Data

Our Cranston customers receive water through a direct-metered connection to the Providence Water Supply Board. The table below represents the results of the testing performed by the Providence Water

Supply Board that has been identified by Providence Water as applicable to the reporting requirements for this area. Results shown on the Kent County Water Authority Quality Data table for lead, copper, haloacetic acids, total coliform bacteria and total trihalomethanes are also applicable to our Cranston customers.

REGULATED CONTAMINANT	PERIOD	UNIT	MCL	MCLG	DETECTED	RANGE	MAJOR SOURCES	VIOLATION
FLUORIDE	2016	ppm	4	4	.77	0.05-0.77	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
BARIUM	2016	ppm	2	2	0.01	N/A	Erosion of natural deposits.	NO
TURBIDITY (1)	2016	NTU	TT	N/A	0.50	0.02-0.50	Soil runoff.	NO
TOTAL ORGANIC CARBON(2)	2016	N/A	TT	N/A	1.59	1.50-1.71	Naturally present in the environment.	NO

Water Quality Table Footnotes:

(1) 0.50 NTU was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100 %. The average turbidity value for 2016 was < 0.10 NTU.

(2) In order to comply with EPA standard, the removal ratio must be greater than 1. Detected level is the lowest removal ratio per quarter. Range is the lowest and highest removal ratios per month.

N/A = Not Applicable

Lawn Care and Landscaping Tips

Water usage during the summer months increases significantly. This is primarily related to outdoor water use, the majority of which can be directly attributed to lawn watering. You can effectively reduce your summer water use in the following ways:

- **Plant less lawn** - Reduce traditional grass lawns where possible. Grass requires more water than other types of ground covers. Replace lawn with drought tolerant shrubs, perennials and ground cover.
- **When to Plant Lawn** - The best time to plant grass is in the early spring or the early fall. The temperatures promote growth and the watering requirements are significantly less.
- **Grass Selection** - Select a native, drought-resistant, or low-water-use turf grass such as fescue grasses. Many varieties are available for your use that includes blends of drought tolerant varieties.
- **Plant Trees** - Trees help maintain moisture for nearby plants.
- **Odd/Even Policy** - KCWA's year round odd/even watering policy is in place to help promote conservation and even out the peak demands placed on the available water supplies. This policy does not mean that you are obligated to water your lawn every other day. Watering every other day when soil conditions do not require it can encourage shallow roots, disease and can weaken plants.
- **Water grass only when needed** - Your lawn needs only one inch of water a week to remain actively growing and healthy. Use a rain gauge to measure weekly rainfall and apply only the amount of extra water needed. Depending on the weather and type of grass, your lawn may go naturally dormant turning brown or hay like in color no matter how much you water. A good rule of thumb is to water approximately once every four to five days and use the rain gauge.

- **Best time to water** - Early morning is best. Less water is lost to evaporation and you will also reduce fungus problems with your lawn.
- **Maintain your lawn properly** - Maintain your lawn at three to four inches in length during the summer heat. During a serious, prolonged drought consider allowing lawns to go naturally dormant, because watering can actually stress the grass more by forcing it to grow under such adverse conditions.
- **Limit Fertilizer Use** - Fertilizer increases the plant's thirst for water. Avoid use of fertilizers in the summer.
- **Natural Runoff** - Install cisterns or rain barrels to collect water from downspouts which can later be used for watering plants and flowers or depress your lawn 1" or 2" to capture and hold runoff from your downspouts.
- **Soil Preparation** - Preparing your soil properly is perhaps the most important aspect of a water conservative landscape. Deep cultivation with lots of organic matter such as compost, leaf mold and peat moss will enrich the soil naturally and hold large quantities of water for proper growth of the root system and plants.
- **Using Mulch** - Use of mulch around plantings helps to reduce evaporation and maintain moisture, limit heat stress and discourage weed growth.

For more information visit the URI Healthy Landscapes Program website, www.healthylandscapes.org or call (401) 874-5398.

In-ground Automatic Sprinklers are perhaps the largest contributing factor to seasonal water waste. If used correctly, in-ground sprinklers can be somewhat water efficient. Unfortunately, many systems are not set up properly, or do not contain necessary moisture/rain sensors to prohibit operation when it is not necessary. In some cases homeowners may not know how to reset the system for maximum efficiency. This results in considerable wasted water. The following general guidelines can help make your sprinkler system more efficient:

- A licensed irrigation professional should inspect and adjust your system each year.
- The point of connection is the supply line for the irrigation system. All connections, fittings and valves should be inspected for leaks and proper operation including the correct operating pressure. Excessive pressure can result in water waste and damaged parts.
- Sprinkler valves open and close to allow for operation of each zone. This is programmed into the controller and should be inspected regularly. Malfunction of these valves can also result in wasted water.
- Sprinkler heads should be checked for proper spacing and alignment, application rates and operating pressure. Move or cap sprinkler heads to avoid watering paved or non-vegetated areas.
- Look for suspicious spots in your landscape that are much greener or consistently wet and muddy. This may be due to an underground leak or other malfunction.
- Learn how to program the system and manage it in manual mode.
- Water once or twice per week. Frequent light watering events encourage disease and shallow roots.
- Water early in the morning to reduce evaporation.
- Do not over water. Use a rain gauge and strive for one inch of water per week (rainfall + irrigation = one inch/week).
- Sprinklers are best suited for grass. Drip irrigation is preferable for plants and shrubs.

Upgrade your system with conservation technology to meet current KCWA Rules and Regulations:

- Install a rain shut-off device to prevent watering when it rains.
- Install a soil moisture sensor that schedules irrigation based on soil moisture conditions.
- Consider installing a “smart” controller that schedules irrigation based on weather conditions. For more information visit the Irrigation Association website, www.irrigation.org.



Cross Connection Control

We have completed the inspection of our commercial and industrial accounts for compliance with the mandatory installation of backflow prevention appurtenances in commercial buildings outlined in the Rhode Island Department of Health Rules and Regulations. We are now reaching out to our customers that were found noncompliant with backflow device installation regulatory requirements. The regulatory backflow requirements focus on the “containment” methodology identified in the RI Department of Health rules and regulations. Containment requires the installation of an appropriate backflow prevention device directly after the outlet valve on the meter in the vicinity where the water service enters the building. Rhode Island plumbing code also requires the installation of thermal expansion appurtenances in conjunction with the backflow device installation. Our commercial customers have been receiving written notification to provide a schedule for compliance installation of these devices. You do not need to receive notification to take action on installation of a containment backflow device but it is advisable to contact our office prior to accomplishing the installation to assure the full containment backflow requirements will be met. Your cooperation in this program is necessary for the overall protection of the public water system. Please feel free to contact us at 401-821-9300 if you are in the design stages on property has installed the required device to set up an appointment to for one of our field representatives to perform a conformation inspected.

Residential Meter Replacement Program

Our most recent Public Utilities rate request Docket 4611 incorporated funding to move forward with a residential meter replacement program. The last system wide residential meter replacement occurred more than 20 years ago. Water meters have moving parts that over an extended period of time wear incrementally in relationship to the amount of water that passes through the meter. As clearances between the parts increases the accuracy of the metered consumption decreases. Basically some water use goes unaccounted for. Regulatory guidance requires residential meters to either be tested or replaced at 20 year intervals. We have determined that a program entailing testing existing meters is cost prohibitive and for the most part would ultimately result in replacement of the meter upon review of the test results. Also, the meters installed in each home during the

previous meter replacement program are obsolete and the technology is no longer supported by the manufacture. Metering technology continues to advance and represents a key aspect to economically providing our customers with accurate metered service and more detailed information necessary to respond to billing inquiries. Radio frequency technology is the current trend in metering systems. This technology is what manufactures have available to replace existing meters that have failed. This technology represents the latest in digital meter registering equipment for efficient retrieval and accurate accounting of consumer consumption. This type of metering technology also provides built-in leak detection and consumption trending that can help provide the information necessary to answer customer questions concerning unusual or abnormal consumption related billing concerns. Radio reading technology reduces labor factors related to system wide collection of reads and will facilitate the future move to a monthly billing cycle similar to other utility and consumer credit billing cycles. Our goal is to solicit bids to implement this program consistent with the program reviewed and approved by the Public Utilities Commission during the rate filing.

Nonpayment Shutoff

The additional costs associated with shutoff for nonpayment of your quarterly bill is a very important consideration. These costs have been reviewed and approved by the Public utilities Commission. These charges are in addition to the overdue amount and any accumulated interest. They apply at the time service has been shut off. Waiting until the water has been shutoff for nonpayment will cost you more than making a timely payment.

Delinquent accounts have been at an all-time high over this past year. Failure to make payment on your bill eventually leads to a shutoff notice and subsequent discontinuance of service. The charge for shutoff of a delinquent account is \$55.00. After payment of the delinquent amount the turn on charge is \$45.00. This results in an additional \$100.00 dollars added to the delinquent amount before water service can be restored to your property. It is very important that you contact us as soon as you think you may not be able to make payment within the normal 30 day grace period. At that time, we can discuss options for payment and perhaps offer a payment plan to get you through a tough period and avoid the shutoff and turn on charges. If you stay within you payment structure it will save you from the additional \$100.00 charges associated with shutoff and turn on policy.

Account Contact Information

Keeping your account contact information up to date is an important factor in our ability to communicate with you should a problem arise. Our customer service representatives will be asking for updated phone contact and billing information as part of any interaction with our customers. Feel free to contact our customer service staff at 401-821-9300 to verify your account information anytime your contact information changes. Our customer service representatives endeavor to assist you. Thanks for your cooperation.

Tips That Help You Save

Toilet leaks: Does your toilet cycle when no one is in the bathroom? Do you have to jiggle the handle to stop the toilet from running? These are all symptoms of worn or maladjusted components resulting in leaks inside of your toilet. We recommend testing your toilets for leaks at least once a year. The process is very simple and can save you from receiving an unexpected large water bill. Add food coloring or other non-staining dye tablets to your toilet tank. Customers can obtain free dye tablets at our office. Let the toilet stand for twenty minutes. If the water in the bowl changes color, it indicates that toilet tank water is leaking into the bowl and down the drain.

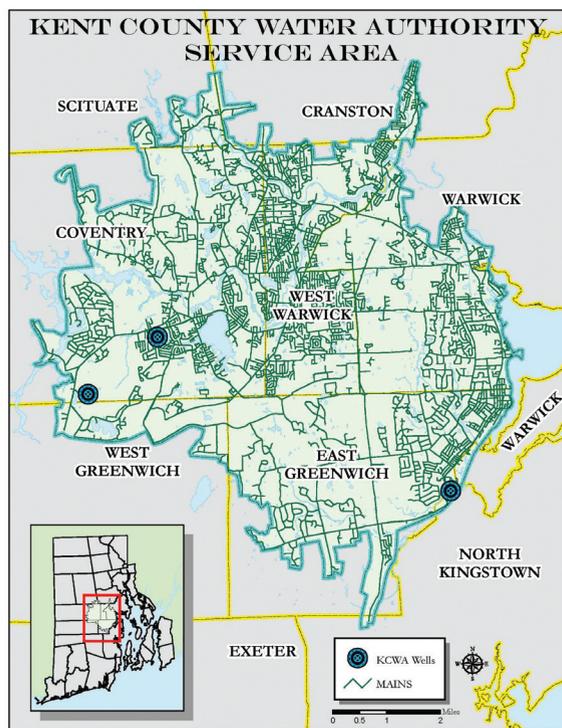
Frozen pipes: Each year we respond to hundreds of calls regarding frozen pipes and meters. Most often drafts, improperly insulated pipes or failed heaters are found to be the cause. To prevent damage from occurring, the best time to inspect and correct these situations is before the cold weather sets in. Inspect the area where your meter and plumbing is located. Look for open cracks in the foundation, poorly fitted windows and doors, missing gaskets, insulation or light entering where the wood meets the concrete. Replace gaskets, seal and insulate all suspect areas. Preventive measures are very often less costly than repairs associated with flooding and burst plumbing resultant from frozen pipes.

Monitoring Your Meter: Each meter register is equipped with a leak detection feature. On older registers it's a small triangular indicator. On the newer digital registers it's a blinking faucet that must be activated by waving a flashlight over the register. The process is simple. Make sure no one is using any plumbing fixture or appliance in the home. During this period observe the register indicator. If the triangle is rotating or faucet is flashing, in the case of a digital register,

this indicates a leak. You can further investigate the source of the leak by isolating or shutting the water valve off to each toilet and appliance one at a time. Check the leak detector each time after isolating each plumbing fixture. If the detector stops you have found the source and a plumber should be able to assist you with the repair. If you have a question about this leak detection process feel free to call one of our customer service representative and they will be happy to assist in this concern.

Source Water Assessment

The Rhode Island Department of Health completed a source water assessment of the Kent County Water Authority supplies during 2003. Susceptibility to contamination was determined to be “MODERATE” according to the guidelines used by the Department of Health during the assessment. This ranking is considered to be an average ranking for the water supply. Individual groundwater recharge areas may fall into the high or extreme risk of susceptibility to contamination from land use activities. Future risk is expected to increase with continued development. Copies of this Assessment can be obtained from the RI Department of Health at 401-222-6867.



Sources of Water

The Kent County Water Authority purchases approximately 90 percent of your water from the Providence Water Supply Board. This supply is treated surface water from the following reservoirs located in the central part of the state: Scituate, Regulating, Moswansicut, Ponaganset, Barden and Westconnaug reservoirs. The remainder of your water is produced from our Mishnock well field and treatment facilities located off Route 3 in Coventry and our East Greenwich well located off Post Road at the Warwick and East Greenwich line. KCWA also wholesales water to the City of Warwick to supply the Potowomut section.

Hydrant Flushing Program

Twice each year we flush our water mains. We often receive calls from customers asking why we are wasting water. The answer is, it's a common waterworks maintenance practice to remove precipitated minerals and other sediment to help improve and maintain the quality of your drinking water and flow capacity to hydrants. This program provides valuable system operating information relative to transmission pump operation, hydrant operation and other operational factors critical to assessing the reliability of multitude equipment components comprising the water system. So the next time you see our water system operators performing this function know that we are doing this in the best interest our customers.





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