A close-up photograph of clear water being poured from a source above into a clear glass. The water is captured in motion, creating splashes and bubbles. The background is a soft, out-of-focus green, suggesting an outdoor setting. The glass sits on a blue and white checkered surface.

KENT COUNTY WATER AUTHORITY

CONSUMER
CONFIDENCE
WATER QUALITY

ANNUAL
REPORT
2014

KCWA Consumer Confidence Water Quality 2014 Annual Report

This year's report covers all testing completed from January 1, 2014 through December 31, 2014 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 our 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 135 years. We endeavor to adopt new and better methods for delivering the best quality drinking water to you. As new challenges to drinking water

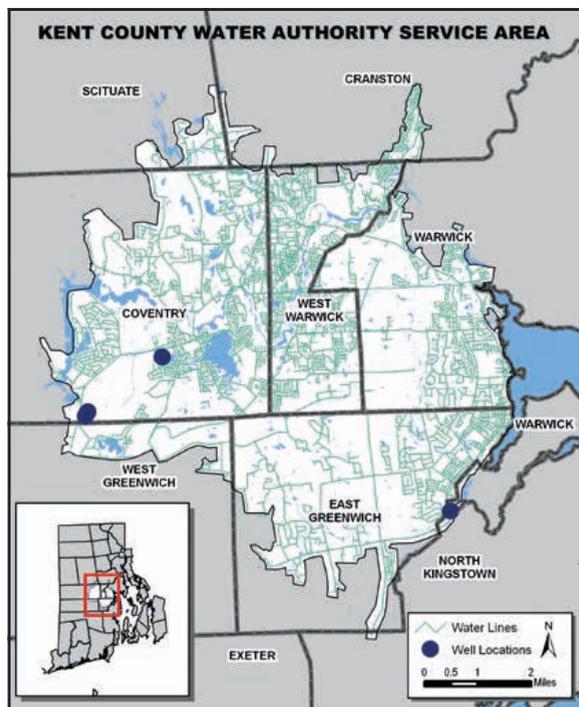
quality and safety emerge, we remain vigilant in meeting these demands while continuing to serve the needs of our customers. It's important to understand the facts about the quality of your drinking water. The information provided in this document reflects the pertinent results from public water system 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 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.

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, for the Kent County Water Authority can also be found on the Secretary of State website, <http://sos.ri.gov/openmeetings/>. Meetings begin at 3:30 p.m. at our office located at 1072 Main Street, West Warwick. We look forward to seeing you there!

Rate Filing

We are preparing a rate adjustment request to submit to the Public Utilities and Carriers for review and approval of funding necessary for the continued operation of the public water system and continuation of our system improvement programs. Revenue adequacy is the key component to the proper operation and sustainability of a public water system. The Kent County Water Authority is a nonprofit public water supplier. Our goals in this rate request are to contend with cost increases in materials and service, continue to move forward with both

We attribute the historic success in completing our strategic improvement programs and excellent public water service to overwhelming customer support.



Capital and Infrastructure Improvement Programs, allow for additional personnel necessary to contend with increasing regulatory requirements and system maintenance response to our customer needs. We attribute the historic success in completing our strategic improvement programs and excellent public water service to overwhelming customer support. Accomplishing our strategic system goals that benefit the quality of public water supply to the communities we serve could not move forward without your support. We look forward to your continued support during this rate case process.

Rules and Regulations

The Kent County Water Authority Rules and Regulations represent the written guidance outlining both the water utility and customer responsibilities concerning items like billing, maintenance, ownership guidelines and other important issues. In responding to customer inquiries we have found that customers often indicate that they are unaware of the customer responsibilities delineated in the Rules and Regulations. This can sometimes leave our valued customers in precarious situations where 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 parties 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.

Website Improvements Make Payments Easier

Website enhancements during August, 2014, facilitated the implementation of online bill payment by credit card and ACH on the Kent County Water Authority website www.kentcountywater.org. Now all of our customers have convenient access to an online payment option. Credit card payments can also be taken at our office located at 1072 Main Street, West Warwick. Additional information on the credit card and ACH payment method can be obtained online or by contacting our customer service representatives at 401-821-9300.

Bill Presentation Enhancements

Over the years we have received a number of value added suggestions from our customers relating different ways we could improve the clarity and informational content of our bills. This year we had the opportunity to improve our billing process through outsourcing the printing and mailing aspects of this service. Outsourcing the bill printing provided us with the opportunity to reformat the arrangement of the bill information to incorporate customer recommendations into the new version water bill you now receive. The new bill inspired by customer desires incorporates:

- A larger font for easier reading.
- Historic water consumption in both numerical and graphical format.
- Large area on the reverse side of the bill to provide important information.
- Separate window style return envelope.
- Large detachable payment stub sized to fit the window envelope.
- The ability to include a separate informational letter mailed with the bill.

Since implementing the new bill format we have received a number of positive comments from many of our customers. We certainly appreciate the value added customer suggestions that we considered crucial to the efficient and effective redesign of the new bill format.

Infrastructure Improvements

Kent County Water Authority distribution and transmission mains comprise a network of more than 448 miles of underground infrastructure, storage tank facilities, and a multitude of pumps, wells and pressure control stations that must be continually maintained. Many of the existing water mains date back 100 years. 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 two projects under contract 2014A and 2014B. These contracts will replace approximately 41,000 linear feet of underground water infrastructure including mains, service pipe, valves and hydrants. 2015 infrastructure programs are also currently under design for 40,000 linear feet of infrastructure that will be bid for construction once the design phase is complete.

As you might expect, water rates pay for the replacement of old infrastructure. Costs associated with these improvements are incorporated in the rate structure for your billing. The rate structure and each 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.

In the year of this report much of the work occurred in West Warwick where approximately 18,500 linear feet of water main was replaced. Moving forward, we project the remaining 22,000 linear feet of water main replacements will come to final completion during 2015. 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 project 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 Capital Improvement Plan (CIP) is available online at <http://www.kentcountywater.org/config/rpts-tech/2012-CIP-Report.pdf>. The plan maintains consistency with the principles and strategic goals of the Authority and its commitment to:

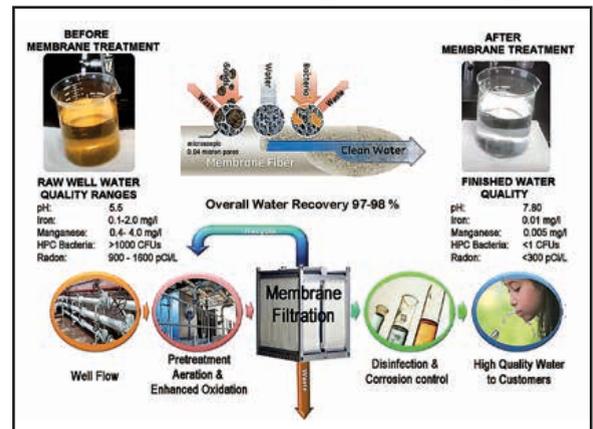
- Provide a consistent source of high quality, potable water for public consumption and fire protection.
- Reduce overall short and long-term maintenance costs.
- Coordinate water system improvements to comply with local and federal guidelines for consistent management and operation of a public water supply system.

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 a 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.

Mishnock Ultrafiltration Facility

Under the CIP Program, The Kent County Water Authority completed our new state-of-the-art ultra-filtration water treatment plant on Nooseneck Hill Road in Coventry. As of December 2014, the plant was in full operation



for a period of one year being accepted as completed under the contract requirements. The plant produced 100 million gallons of high quality drinking water over the past year with plans of doubling that production for the next fiscal year.

Commissioning of this facility represents a major milestone in our





strategic planning initiative to increase supply and provide redundant source water capabilities that can continue to supply our customers should a malevolent event or casualty occur at one of our wholesale connections. The plant was also designed with future growth in mind. The

plant can be expanded using the existing layout and “plugging in” additional treatment filtration modules. This modular component will allow for a cost effective additional capacity of one million gallons per day above the current constructed capacity. The wells and treatment facilities will be in operation 24 hours a day to provide the most cost effective benefit to our customers. This project will significantly improve Kent County Water Authority’s ability to meet the growing demand in the system associated with both residential and economic development and secure this valuable supply for decades to come.

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 does not 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 critical replenishment supplies out of the basin. Also, these wastewater 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-tonged 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.

Supply Deficit

Bringing our Mishnock well fields back online has enhanced our potable water supply capacity. Our recent computerized hydraulic modeling results indicate that supply deficits realized several years ago have been mitigated through system improvements resultant from completion of a number of Capital and Infrastructure Replacement projects. For now we feel confident we have been successful in meeting the system short term supply needs.

The availability and access to potable supply sources for public water supply continues to remain undefined within the state. The expressed viewpoint of the Rhode Island Water Resources Board and Rhode Island Department of Environmental Management at this point remains curtailment of current residential demands as the primary methodology to provide additional supply to support future economic and residential growth. There is a strong movement to also curtail the public water supply groundwater withdrawals in conjunction with the implementation of more stringent residential use restrictions. This strategy is not a viable solution to increase water availability. An excellent illustration of this flawed approach is to apply this philosophy to the water supply dilemma that drought stricken California experienced this year. It simply would not work.

The Water Resources Board is legislatively empowered as the agency that manages the withdrawal and use of the waters of the state with the obligation to assure drinking water is available to all Rhode Islanders for use in their daily lives. Rhode Island Department of Environmental Management is legislatively empowered to supervise and control the protection, development, planning and utilization of the natural resources of the state. The Kent County Water

Authority must rely on these state agencies in its endeavor to acquire additional supplies to service its expanding service area.

The periodic shortfall many water suppliers' experience in meeting current maximum day demands should not be viewed as a passing event. Just look at the extreme drought California experienced these past few years. The news and internet are filled with similar reports from other states suffering worsening conditions. Rhode Island water supply philosophy has become awash in a sea of innuendo that does not take into consideration what other states are now experiencing with regard to shortages in drinking water supplies. This may have crippling effect on the long term availability of public water supply in Rhode Island well into the next century. Discreet factors such as the acute effects of climatic change on water demand and aquifer depletion from out of basin transfer of water from public sewer systems are often discounted in resource evaluation. The ability to store large quantities of reserve capacity and recharge aquifers is critical to transcending extended dry periods such as what happened in California. Additional surface water reservoirs or impoundments and wastewater treatment plant effluent recharge are perhaps the only appropriate long term solution to this mounting concern.

In the 1960's, the State of Rhode Island obtained 8,600 acres of land in the Big River Watershed through eminent domain. At that time this undertaking was with the specific intent of constructing a second drinking water reservoir supply, similar to the Scituate Reservoir system that currently supplies the majority of the state. To date, no action has been taken to construct this critical reservoir resource for our future needs. Over the years, expansion of public water and public sewer systems throughout the state has continued to nibble away at the available safe yield of our groundwater aquifers and the Scituate Reservoir source to the point where the full capacity has been appreciably allocated under current maximum day demands. No other large reserve source of drinking water currently exists within the state. There is no contingency should an extended drought occur or demand escalation commensurate with economic and residential development envisioned for the southern part of the state.

Some time ago, the Rhode Island Water Resources Board completed a study to assess the potential risk of losing critical water sources of the state's major water suppliers in an attempt to identify potential supplemental emergency water sources to meet emergency demands. The assessment

For now we feel confident we have been successful in meeting the system short term supply needs.

indicated it did not consider development of new surface water sources as part of the supplemental supply portion of the study. Conversely, loss of the Providence Water Supply Board Scituate Reservoir source was indicated to present the largest impact on the ability to supply our customers and overall public water supply throughout the state. The assessment conclusions rely on existing local supplemental sources to provide minimum levels of service during a loss of a critical supply source; many of which will require considerable infrastructure improvements or development of alternate facilities to be effective. Based on this study, it could take months or maybe years after a catastrophic incident to construct infrastructure necessary to recover from a major failure or malevolent event on the Providence Water Treatment Plant and Scituate Reservoir facilities. We are unaware of any concrete action to implement the recommendation since the report was published.

The Kent County Water Authority continues to bring forward concerns regarding water supply within our state along with innovative ideas used in other states for improvement of water supplies. We urge all of our customers to contact their senator or representative and your concerns regarding the future of water supply in Rhode Island. Reliable and redundant supply is crucial to future economic growth and prosperity. The reality is there is no other reservoir resource available should the Scituate supply source become compromised as happened in West Virginia in January of 2014. Hundreds of thousands of residents, businesses schools and municipal facilities in several communities could not use the public water due to a chemical spill in the river that is the source of public water supply for those communities. A second major reservoir source of supply is critically necessary to provide for redundant supply should a malevolent act or major catastrophe occur to the Scituate Reservoir system

We all need to support the Big River Reservoir initiative by conveying your concerns to your state and local representatives. Building the reservoir doesn't mean we must tap the resource right away, but prolonging construction of this essential resource will exponentially increase the overall future cost to construct the reservoir and also affect the future prosperity of our state.

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. However, only the water suppliers will be held accountable 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.

Water Conservation

Clean potable drinking water is a finite but renewable resource. It is imperative for all of us to embrace new strategies that will work to both protect and conserve it. The impact of water conservation on supply availability has been generally understated and not well understood. Outdoor water use conservation is perhaps the most important factor to consider in your conservation efforts. Balancing the available water supply to meet both the current drinking water needs of our existing customers and the future economic development in our service area is of paramount concern. We strongly believe that this is a statewide conservation

As a Kent County Water Authority customer, you play a vital role in protecting and conserving our precious water resources

issue that demands equitable state regulatory management so that all residents of Rhode Island can equally contribute to the best use of the state's waters. Over the past several years, we have introduced several programs to promote water conservation. We appreciate our customers' participation in these programs and will continue to strengthen our commitment to this important cause. As a Kent County Water Authority customer, you play a vital role in protecting and conserving our precious water resources. Your unyielding cooperation is necessary to help us continue to provide dependable service to all our customers.

East Greenwich Well Supply

The existing well facilities are antiquated and have reached their useful life. As indicated in our Infrastructure Rehabilitation Plan an engineering firm was engaged to perform an evaluation of the existing well facilities and provide a rehabilitation design to reconstruct replacement well facilities at the existing well field. During the evaluation phase a catastrophic failure of the bronze intake screen located at the bottom of the existing well was experienced during the well redevelopment phase of the project. Extensive failure of the casing screen and the intrusion of boulders into this area were problems that needed immediate attention. The well was originally drilled in 1964. Evaluations of the well following the failure arise to considering drilling a replacement well over attempting to install a new screen at the bottom of the casing. During discussions with well drilling companies and our engineers it was communicated that successful rescreening of wells with similar failures was possible through specialized equipment. The prospect of rescreening the existing well represents significant time and cost saving over permitting and drilling a new well, so this direction was taken.

The additional design and construction work associated with the unexpected failure of the well has delayed our original project timelines. Our engineers are keenly aware of the criticality of this public drinking water source in the Kent County Water Authority global supply strategy for the southern reaches of our system. Every effort is being made to expedite the revised design and bidding process to facilitate construction commencement on this well field rehabilitation project as quickly as possible. Our intent is to bid this project for immediate construction directly following receipt of the final contract document deliverables from the engineer. Once this phase of the well field rehabilitation is complete, the Kent County Water Authority envisions moving forward with obtaining funding to complete our planned future capital improvement project that will in the future

add full scale treatment facilities at this site. The current well field rehabilitation project design incorporates design considerations and appurtenances, as necessary, to make the facilities constructed under the rehabilitation project compatible with the envisioned treatment facilities.

Manganese sequestering treatment will continue 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 affects 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 dish washing 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.

Our engineers are keenly aware of the criticality of this public drinking water source in the Kent County Water Authority global supply strategy for the southern reaches of our system.

Cross Connection Control

Over the past year we have been visiting all of our commercial accounts to inspect for compliance with the Rhode Island Department of Health Rules and Regulation for mandatory installation of backflow prevention appurtenances in commercial buildings. The backflow requirements focus on "containment." Containment will require the installation of an appropriate backflow prevention device directly after the meter in the vicinity where the water service enters the building. Rhode Island plumbing code also requires the installation of thermal expansion controls in conjunction

(continued on page 20)

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, 2014 to December 31, 2014. 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)	2014	ppm	2	2	0.009	0.006-0.009	Erosion of natural deposits.	NO
CHROMIUM (2)	2014	ppb	100	100	5	0.24-5	Erosion of natural deposits.	NO
FLUORIDE (1)	2014	ppm	4	4	3.45	0.26-3.45	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
NITRATE (1)	2014	ppm	10	10	3.7	0.06-3.7	Erosion from natural deposits. Leaching from septic tanks; sewage; runoff from fertilizer use.	NO
TURBIDITY (1)(4)	2014	NTU	TT	N/A	0.40	0.02-0.40	Soil runoff.	NO
TOTAL ORGANIC CARBON (1)(3)	2014	N/A	TT	N/A	1.26	1.18-1.31	Naturally present in the environment.	NO
CHLORINE FREE RESIDUAL	2014	ppm	4	4	0.53	0.48-0.62	Water additive used to control microbes.	NO
TOTAL TRIHALOMETHANES (TTHM)	2014	ppb	80	N/A	66	48-86	Byproduct of drinking water chlorination.	NO
HALOACETIC ACIDS (HAA5)	2014	ppb	60	N/A	35	17-72	Byproduct of drinking water chlorination.	NO
LEAD AND COPPER RULE	PERIOD	UNIT	AL	MCLG	90th PERCENTILE DETECTED	RANGE	MAJOR SOURCES	VIOLATION
COPPER	2014	ppm	1.3	1.3	0.019	0 of 31 samples was above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO
LEAD	2014	ppb	15	0	5	0 of 31 samples was above the action level	Corrosion of household plumbing systems. Erosion of natural deposits.	NO

USEPA UNREGULATED CONTAMINANT MONITORING	PERIOD	UNIT	DETECTED	RANGE
STRONTIUM (5)	2014	ppb	190	27-190
VANADIUM (1)(5)	2014	ppb	0.42	0.24-0.42
1, 4-DIOXANE (5)	2014	ppb	0.15	0.076-0.15
CHLORODIFLUOROMETHANE (5)	2014	ng/l	4600	3000-4600
HEXAVALENT CHROMIUM (DISSOLVED) (5)	2014	ppb	0.11	0.035-0.11
CHLORATE (5)	2014	ppb	110	100-110
1, 4-DICHLOROETHANE (5)	2014	ng/l	110	38-110
MOLYBDENUM (5)	2014	ppb	1.8	1.1-1.8
4-ANDROSTENE-3, 17-DIONE (1)(5)	2014	ppb	0.00052	0-0.0005

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) 0.40 was the highest single turbidity measurement recorded. The lowest monthly percentage of samples meeting the turbidity limit was 100%. The average turbidity value for 2014 was <0.10 NTU.
- (5) Unregulated substances are those that do not yet have a drinking water standard set by the USEPA. The purpose of monitoring these contaminants is to help the USEPA decide whether it should establish a standard for these contaminants. Additional information on the EPA URCM3 monitoring program is available by calling the Safe Drinking Water Hotline 800-426-4791 or online at <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr3/index.cfm>

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	2014	ppm	4	4	3.45	0.55-3.45	Erosion of natural deposits. Water additive, which promotes strong teeth.	NO
BARIUM	2014	ppm	2	2	0.007	NA	Erosion of natural deposits.	NO
TURBIDITY (1)	2014	NTU	TT	N/A	0.40	0.02-0.40	Soil runoff.	NO
TOTAL ORGANIC CARBON(2)	2014	N/A	TT	N/A	1.26	1.18-1.31	Naturally present in the environment.	NO

Water Quality Table Footnotes:

(1) 0.40 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 2014 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

Unregulated Contaminant Monitoring

The Environmental Protection Agency (EPA) uses the Unregulated Contaminant Monitoring (UCM) program to collect data for contaminants suspected to be present in drinking water, but that do not have health-based standards set under the Safe Drinking Water Act (SDWA). Every five years EPA reviews the list of contaminants, largely based on the Contaminant Candidate List. This monitoring helps EPA to determine where certain contaminants occur and whether there is a future need to regulate those contaminants. Additional information on this program is available online at: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>

The below table reflects unregulated contaminant detections in Providence Water Supply sampling under the EPA UCMR3 regulatory requirements:

UNREGULATED CONTAMINANT	PERIOD	UNIT	DETECTED	RANGE
STRONTIUM	2014	ppb	27	26-27
VANADIUM	2014	ppb	0.42	0.33-0.42
4-ANDROSTENE-3, 17-DIONE	2014	ppb	0.00052	0-0.00052

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 MS/L
- **TT** Treatment Technique
- **NTU** Nephelometric Turbidity Units
- **ppm** Part Per Million or MS/L
- **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.

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 www.epa.gov/safewater.

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

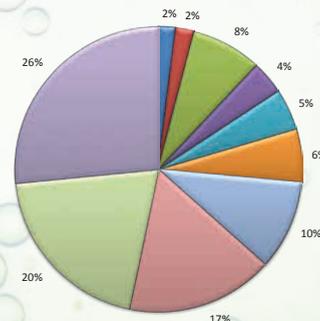
If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. Kent County Water Authority is responsible for providing high quality 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 <http://www.epa.gov/safewater/lead>.

A few years ago, Providence Water changed its water treatment process which altered the water chemistry to decrease the pH. After this change, it was discovered that Providence Water was unable to maintain its lead and copper testing results within USEPA and RIDOH drinking water guidelines. The RIDOH and Providence Water entered into a consent agreement to increase the pH to correct the lead and copper compliance issues. The RIDOH has asked the Kent County Water Authority to continue conducting annual lead and copper testing as a result of the consent agreement to measure the effectiveness of the pH change for compliance purposes. Please contact the Rhode Island Department of Health Office of Drinking Water Quality at (401) 222-7740 should you have any questions concerning this matter.

Did you know in 2014 Kent County Water Authority Employees

- Responded to the homes and businesses of 1,144 of its 26,600 customers in response to requests for assistance.
- Repaired 74 underground infrastructure leaks.
- Flushed 263 miles of main this year to help maintain the quality of your drinking water.
- Processed 4,535 Dig Safe marking requests.
- Inspected and tested 2,347 hydrants of which 46 hydrants were either repaired or replaced.
- Recorded 108,765 meter reads.
- Prepared, printed, mailed and processed 108,765 customer bills, 19,411 delinquent notices and 15,180 shutoff/collections.
- Pumped 3.3 billion gallons of water to supply both domestic and fire service at less than ¾ of a cent per gallon delivered to your home.
- Traveled 146,368 vehicle miles in service to our customers.
- Replaced 3.4 miles of failing underground water mains and associated valves, services and appurtenances to improve water quality and service to you, our customers.

Allocation of Costs to Provide Water to Our Customers



- Insurance: Property, Liability and Workers' Compensation
- Electricity: Pumps, Wells, Tanks, Pressure Control Stations and Office
- Restricted: Renewal & Replacement, O&M, ORA, Debt Service Savings
- Treatment/Service Materials: Chemicals, Replacement Parts, Gravel and Asphalt
- Benefits: Life, Disability, Health, Dental Insurance and Pension
- Operations: Vehicle Maintenance, Customer Records, Legal and Accounting Fees, Regulatory Commission Expense, Fuel, PILOT, Samples and Dig Safe
- Payroll: Base Salary and Overtime
- Restricted Bond: Debt Service for Capital Improvements
- Purchased Water: Wholesale Water Purchases from Providence and Warwick
- Restricted IFR: Legislatively Mandated Infrastructure Replacement Program

with the backflow device installation. Our commercial customers have been receiving written notification to set up an appointment for a Kent County Water Authority representative to verify compliance with the law and Rhode Island Department of Health Regulations. 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 your property has not been inspected yet or should you have any questions regarding the backflow programs.

Meter Replacement Program

The last system wide residential meter replacement occurred approximately 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. The meters installed in each home during the previous meter replacement program are obsolete and the technology is no longer supported by the manufacturer. Metering technology continues to advance and represents a key aspect to economically providing our customers with accurate metered service. Radio frequency technology is currently being introduced in the Kent County Water Authority service area to replace existing meters that have failed. This technology represents the latest in digital meter registering equipment for efficient and accurate retrieval 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 also requires less personnel to accomplish the system wide collection of reads and will help move our billing cycle from quarterly to monthly similar to other utility and consumer credit billing cycles. Our goal is to present a comprehensive meter change out program during our next Public Utilities and Carriers rate review.

Nonpayment Shutoff

Shutoff for nonpayment will cost you more. We continued to see high numbers of delinquent accounts 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 amounts to 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 charge 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 information as part of any interaction with our customers. As this data becomes more accurate we will move to the next phase, which will incorporate an automatic notification should a system wide problem arise that compromises the quality of your water. Feel free to contact our customer service staff at 401-821-9300 to verify your account information and 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 mal-adjusted 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. 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. Customers can obtain free dye tablets at our office.

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.

USEPA Unregulated Contaminant Monitoring

The UCMR program reviews sample data taken from the source water points of entry and distribution system locations to evaluate drinking water contaminant occurrence data used by the Environmental Protection Agency (EPA) in future regulatory determinations. The purpose of the program is to collect occurrence data for contaminants suspected to be present in drinking water, but do not have health based standards set under the Safe Drinking Water Act (SDWA). The Third Unregulated Contaminant Monitoring Rule (UCMR3) includes assessment monitoring for 21 chemical contaminants using approved EPA analytical methods. The Kent County Water Authority is subject to this monitoring rule. The Water Quality table represents contaminants detected during the 2014 compliance monitoring period. Additional information on the requirements, methods and contaminants for the EPA URCM3 monitoring program is available by calling the Safe Drinking Water Hotline 800-426-4791 or online at <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr3/index.cfm>

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.



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