2016 Annual Drinking Water Quality Report
For
The Cherry Valley and Rochdale Water District
Leicester, MA
MassDEP PWS ID # 2151001

Serving Cherry Valley, Rochdale and North Oxford with quality drinking water since 1910

This report is a snapshot of the drinking water quality we provided last year. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. The Cherry Valley and Rochdale Water District (CVRWD) is committed to providing you with this information because informed customers are our best allies.

PUBLIC WATER SYSTEM INFORMATION

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WATER SYSTEM UPDATE:

UDF Hydrant Flushing

Uni-directional Flushing (UDF) is a hydrant flushing method that is an extremely aggressive method of flushing the distribution system providing positive benefits by enhancing water quality, maintain chlorine residuals throughout the distribution system and verify proper operation of hydrants and valves. In May 2016 CVRWD staff completed the annual UDF program in the Cherry Valley service area. Flushing of the Rochdale-Oxford service area was postponed due to the State wide water ban. Hopefully, the water ban will be lifted allowing the District staff to begin the 2017 district –wide flushing program beginning in the Rochdale-Oxford service area.

Chapel Street Water Main

At the May 19, 2016 Annual Meeting voters approved $20,300.00 to fund the first of a two year project to terminate the existing six (6) inch water main and transfer all existing water and fire services to the existing ten (10) inch water main. In August 2016 District crews successfully completed the first phase by swapping house and fire services from the six (6) inch to the ten (10) inch water main.

Hydrant Repair

In September 2016 District staff replaced the fire hydrant located on Comins Road in Oxford. The hydrant was severely damaged by a motor vehicle requiring full replacement. Unfortunately, the Oxford Police were unable to locate the operator or vehicle causing the District to absorb the full cost of the replacement.

Valve Repair

In September 2016 District staff replaced the eight (8) inch main line valve located in the area of 989 Stafford Street. As part of the UDF program District crews discovered this valve inoperable requiring replacement.

Apricot Interconnection/Booster Station

After months of monitoring the decreasing water elevation of Henshaw Pond and the Grindstone Well, the Board of Water Commissioners reached out to the City of Worcester to begin the activation process of the Apricot Street Interconnection. In preparation for this event, District staff conducted pressure and flow data measurements and assisted by the District's engineers from Tata & Howard, determined that a Booster Pump would be required to "boost" the flow to successfully supply the Rochdale-Oxford service area.

On October 14, 2016, District staff assisted by local contractors completed the construction of the "Booster Station", Henshaw Pond and the Grindstone Well were taken offline and all water supply for District residents was now being supplied/purchased from the City of Worcester.

Currently the District operates the interconnection and booster station manually. To operate the interconnection/booster the on-call operator monitors the water storage tank elevations. The tanks' elevation dictate the times that the Interconnection valve is manually opened/closed and the manual start/stop of the booster station. The daily challenge is to maintain adequate storage in the water storage tanks to provide adequate domestic water supply and added storage to address firefighting requirements. Water use demands, including leaks, result in a longer operation and extend the hours of operation.

There is a financial downside to the manual operation of the interconnection/booster station taxing the FY 17 operating budget accounts specifically: overtime, sub-contractors and pipes. Another downside is the daily operation of the eight (8) inch interconnection gate valve. After six months of manual operation the valve had to be replaced. The replacement required excavation, replacing the upper portion of the valve and restoration of the roadway. Again, just another expense associated with the manual operation.

The Board of Water Commissioners is developing a plan to automate the operation of the interconnection/booster station. With Voter approval the Board anticipates the automation could be completed in phases spanning the next few years.

Leak Detection

As a result of purchasing water from the City of Worcester and knowing that the District pays for every drop of water measured by the interconnection's master meter, the District's staff has increased the frequency of the District Leak Detection Program. An initial hydrant to hydrant survey discovered leaks located on Church Place (2), Onley Street (2), West Street (2), Bottomly Ave. (2), Mill St., Young St. and Main Street (2).

A significant leak in the District's eight (8) inch transmission main was located in the vicinity of 490 Main Street. The subject water main is located at a depth of fourteen (14) feet and under a stone constructed retaining wall. Due to the depth and location of the main it was determined the repair could not be handled with District resources. To repair the leak the District secured the services of R.H. White, Co., Auburn, MA. The safe excavation and repair was completed in four (4) days. The important take away was the District's approach and planning of the repair limited the loss of water to one (1) commercial and two (2) residential water services avoiding the loss of water to half the water district service area.

A second leak was detected in the District's eight (8) inch transmission main east of 490 Main Street. Fortunately the location and depth allowed the District's crew to execute the repair. Once again loss of water service was limited to one (1) commercial and two (2) residential water services. The repair was completed in one day.

The District's staff continues to conduct monthly hydrant to hydrant surveys to avoid wasteful and costly system water leaks.

Pending MassDEP Actions:

Administrative Consent Order (ACO) Update

The District continues to meet with MassDEP regarding the Administrative Consent Order. The District representatives met with MassDEP in January 2017 and were informed that all provisions assigned to the Henshaw Pond treatment requirements would be removed. The District expects to receive the revised ACO later this year.

Unilateral Administrative Order (UAO)

On November 22, 2016 MassDEP issued a Unilateral Administrative Order confirming that MassDEP prohibits the District from resuming use of Henshaw Pond as a Public Water Supply source until treatment is provided to assure compliance with MassDEP' s Drinking Water Regulations.

A conservative estimate of the cost to construct a treatment facility to assure compliance with MassDEP' s Drinking Water Regulations fell in the range of $9 to $9.5 million dollars. This cost was deemed by the Commissioners as

being well beyond the ratepayers' ability to pay the long term debt associated with the project. In the final analysis it was clear that the Worcester interconnection became the most affordable option.

Sanitary Survey 2016

In September 2016, MassDEP conducted the District wide Sanitary Survey. A Sanitary survey is an onsite review of the water source, facilities, equipment, operation and maintenance of a public water system for the purpose of evaluating the adequacy of such source, facilities, equipment, operation and maintenance for producing and distributing safe drinking water. The Survey further reviewed the operation of the newly activated Apricot Interconnection and Booster Station. The District expects to receive the Survey results along with the release of the revised ACO.

Annual Water Use Restrictions

As per the provisions of the State issued Water Management Act Permit the Board of Water Commissioners declared the required District-wide water use restrictions beginning May 1, 2017 and ending October 1, 2017. Details of the restrictions are posted on the District website www.cvrwd.com.

Public Informational Meeting

On October 16, 2016, the District held a Public Informational Meeting to present the details of the 1.9 million dollar Capital Project to fund the construction of a dedicated 8" water main to serve as the permanent interconnection with the City of Worcester. The project included the construction of a dedicated 8" water main installed the length of Apricot Street beginning at the City of Worcester Apricot Street pump station and ending at the junction of Apricot Street (Worcester) and Sargent Street (Leicester), the installation of an aeration mixing system in the Airport water storage tank (Worcester) upgrades to SCADA (providing automation of the interconnection and booster station), furnish and install residential and commercial water meters and all associated engineering. The public informational meeting was well attended but not well received by the majority of those that attended.

Special District Meeting

On October 20, 2016, the District held a Special District Meeting to vote on, Article 1, to fund the 1.9 million dollar Capital Project to fund the construction of a dedicated 8" water main to serve as the permanent interconnection with the City of Worcester. Article 2, requested that the voters transfer $286,000.00 from Free cash to the FY17 Operating Budget to fund the newly created operating budget account "City of Worcester Water Usage Fees". Article 1 was not approved. Article 2 was approved.

Special District Meeting

On December 6, 2016, per the recommendation of MassDEP, the District held a second Special District Meeting to vote on, Article 1, 1.9 million dollar Interconnection Capital Project; Article 2, amend FY 2017 operating budget $71,500.00 transfer free cash to "City of Worcester Water Usage Fees", Article 3, amend FY operating budget $52,000.00 transfer from free cash to fund "Interconnection/Booster Station Rental Fees", Article 4, $50,000.00 transfer from free cash to Reserve Account and Article 5, $25,000.00 transfer from free cash to the Olney Street water main upgrade, Article 6, $49,000.00 transfer from free cash to fund the purchase of new booster pumps to replace the rental pump system currently in use. With the exception of Article I, all Articles passed.

March 1, 2017 Water Rate Increase

As a result of the meetings held in October and December the Board of Water Commissioners decided that the current water rates should be reviewed to determine the best way to revise and restructure the water rates to meet the current and future operations.

The new rate structure is a result of the input received by the District residents attending the October 13th, 2016 Public Informational Meeting. To conduct the analysis, the Board secured the services of Pioneer Consulting Group with twenty-one years of specializing in municipal water rate studies.

The study recommended that the rates structure be revised slightly. That all water customers be charged a minimum charge and a separate charge for all water consumption. The Minimum charge, as recommended by the American Water Works Association suggests that **NO WATER** consumption be included in the minimum charge and be designed to recover the costs associated with the daily operation of the water district, regardless of the customer's usage and includes meter reading, billing, meter service and administrative expenses.

The study further recommended that the District maintain a conservation based water rate. A conservation-based rate structure encourages efficient use of water by charging customers a higher rate as their water consumption increases. Conservation pricing allows utilities to recover the full cost of supplying water while encouraging more efficient water use on the part of the customers so that the water supply and demand cycle can be more financially and environmentally sustainable. The new rate structure was implemented and effective March 1, 2017.

Annual Financial Audit

The annual financial audit was conducted by the firm of Robert C. Alario, Certified Public Accountants of Worcester, MA for years ending June 30, 2015 and 2016. The audit concluded that the District continues to demonstrate excellent financial accountability.

Opportunities for Public Participation

If you would like to participate in discussions regarding your water quality, you may attend the Board of Water Commissioners' meetings on the 2nd and 4th Monday of every month at 148 Henshaw Street. In accordance with the new Open Meeting Law, please refer to official postings of future meeting agendas at your local Town Hall.

YOUR DRINKING WATER SOURCE

From January 1 through October 13, 2016, your drinking water was supplied by the following sources:

Source Name	MassDEP Source ID#	Source Type	Location of Source
Henshaw Pond	2151001-01S	Reservoir	148 Henshaw Street, Leicester, MA
Grindstone Well	2151001-01G	Ground Water	148 Henshaw Street, Leicester, MA

Is My Water Treated?

Our water system makes every effort to provide you with safe and pure drinking water. To improve the quality of the water delivered to you, we treat it to remove several contaminants.

- *We add a disinfectant to protect you against microbial contaminants.*
- *We filter the water to remove small particles and organisms such as sediment, algae and bacteria.*
- *We chemically treat the water to reduce lead and copper concentrations.*
- *We aerate the water to reduce radon concentrations.*
- *We filter the water to remove uranium and other naturally occurring radionuclides.*
- *We filter the water to remove arsenic.*

How Are These Sources Protected? MassDEP has prepared a Source Water Assessment and Protection (SWAP) report for the water supply sources serving this water system. The SWAP Report assesses the susceptibility of public water supplies.

What is My System's Ranking? The overall ranking of susceptibility to contamination for the system is **"high,"** based on the presence of at least one high- threat land use within the water supply protection areas. The CVRWD has four high-threat activities and land uses within the protection areas: Aquatic Wildlife, Stormwater Drains/Retention Basins, Electric Transmission Line Rights-of-Way and Transportation Corridors (Route 9 & Henshaw Street).

How is the CVRWD Addressing the SWAP Report? The District regularly submits written comments and participates in all Planning Board and Zoning Board of Appeals processes relating to land use within the watershed. In November of 1997, the District developed a comprehensive Surface Water Supply Protection Plan for Henshaw Pond that has been used as a model for other communities state-wide. The District further participated in the development of the Town of Leicester's Zoning By-laws called the Water Resources Protection Overlay District. The District regularly conducts on-site inspections of land use within the watershed and communicates such activities with the Town of Leicester Code Enforcement Officer to implement corrective action as warranted.

What Can I Do to Help? Please do not underestimate your impact on your water supply. You can help protect water supplies by supporting local protection plans and initiatives implemented by the Town of Leicester and the CVRWD. Also, practicing good septic system maintenance, taking hazardous household chemicals to designated collection sites and limiting pesticide and fertilizer use will help ensure a clean water supply.

Where Can I See The SWAP Report? The complete SWAP report is available by contacting the Cherry Valley and Rochdale Water District at 508-892-9616. It is also available online at **www.mass.gov/eea/docs/dep/water/drinking/swap/cero/2151001.pdf**

Due to the critical drought level, beginning October 14, 2017, your drinking water supplier changed to the City of Worcester by activation of the Apricot Street Inter-connection.

Worcester obtains its drinking water from 10 surface water sources, or reservoirs, located outside of the City. The watershed for these reservoirs covers 40 square miles. These reservoirs, totaling a combined storage capacity of 7,379.9 Million Gallons (MG) are:

- Lynde Brook Res. (Leicester) 717.4 Million Gallons
- Kettle Brook Res. No. 1 (Leicester) 19.3 MG
- Kettle Brook Res. No. 2 (Leicester) 127.3 MG
- Kettle Brook Res. No. 3 (Leicester, Paxton) 152.3 MG
- Kettle Brook Res. No. 4 (Paxton) 513.7 MG
- Holden Res. No. 2 (Holden) 257.4 MG
- Holden Res. No. 1 (Holden) 729.3 MG
- Kendall Res. (Holden) 792.2 MG
- Pine Hill Res. (Paxton, Holden, Rutland) 2,971.0 MG
- Quinapoxet Res. (Holden, Princeton) 1,100.0 MG

In addition to these 10 active reservoirs, other sources of water supply remain inactive but could be used in the case of an emergency. These additional supplies include two wells and two reservoirs; the Coal Mine Brook Well on Lake Ave North in Worcester and the Shrewsbury Well off Holden Street in Shrewsbury the Wachusett Reservoir and the Quabbin Aqueduct.

To protect a surface water supply one must con-trol the land within the watershed surrounding the supply. Worcester has maintained very strict control over the land it holds for water supply protection. However, not all of the land in Worcester's watershed is owned or controlled by the City. On some of those privately owned lands activities occur that could pose a threat to water quality in the reservoirs.

The potentially threatening land uses include: dairy farms, livestock operations, manure spreading or storage, pesticide storage and use, railroad tracks, aquatic wildlife, landfills and dumps, power line rights of way, storm water discharges, highways and roadways. Over-all, Worcester's water supplies are considered highly susceptible to contamination.

More information on watershed protection issues is available in the Source Water Assessment & Protection (SWAP) report prepared by DEP in 2002 and available from Worcester DPW&P Water Operations by calling 508-929-1300 or at www.mass.gov/dep/water/drinking/2348000.pdf.

Treatment will reduce the levels of contaminants to a safe range and can effectively eliminate some substances but will not remove all traces of all possible contaminants.

In calendar 2016, the Water Filtration Plant treated 8,242,681,000 gallons of water using the following processes:

- **Ozonation —** Generated on-site, ozone disinfects and breaks down organic matter making the water more efficiently filtered. This is the most effective disinfectant for the parasites giardia and cryptosporidium.
- **Coagulation & Flocculation using cationic polymer and alum** to make tiny particles in the water stick together to form larger particles, which can be better trapped in filters.
- **Direct Filtration —** This removes particles from the water using a coal and sand filter.
- **pH Adjustment —** Lime (calcium oxide) is added to make the water less acidic and less corrosive.
- **Disinfection with Chlorine** to kill bacteria and other microorganisms.
- **Corrosion Control —** A blended phosphate corrosion inhibitor is added to make the water less corrosive.

SUBSTANCES FOUND IN TAP WATER

Sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

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

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

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

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

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

In order to ensure that tap water is safe to drink, MassDEP and U.S. Environmental Protection Agency (EPA) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water that must provide the same protection for public health. All drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at 800-426-4791.

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

IMPORTANT DEFINITIONS

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

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

Maximum Residual Disinfectant Level (MRDL) -- The highest level of a disinfectant (chlorine, chloramines, chlorine dioxide) allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

Maximum Residual Disinfectant Level Goal (MRDLG) -- The level of a drinking water disinfectant (chlorine, chloramines, chlorine dioxide) below which there is no known of expected risk to health.
MRDLG's do not reflect the benefits of the use of disinfectants to control microbial contaminants.

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

Action Level (AL) – The concentration of a contaminant which, if exceeded, triggers treatment or other requirements that a water system must follow.

90th Percentile – Out of every 10 homes sampled, 9 were at or below this level.
ppm = parts per million, or milligrams per liter (mg/l) NTU = Nephelometric Turbidity Units
ppb = parts per billion, or micrograms per liter (ug/l) pCi/l = picocuries per liter (a measure of radioactivity)
ND – Not detected; the contaminant value measured was not above the detection level of the test method.

Secondary Maximum Contaminant Level (SMCL) – These standards are developed to protect the aesthetic qualities of drinking water and are not health based.

Massachusetts Office of Research and Standards Guideline (ORSG) – This is the concentration of a chemical in drinking water, at or below which, adverse health effects are unlikely to occur after chronic (lifetime) exposure. If exceeded, it serves as an indicator of the potential need for further action.

Unregulated Contaminants: Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.

CVRWD WATER QUALITY TESTING RESULTS

The water quality information presented in the tables is from the most recent round of testing done in accordance with the regulations. All data shown was collected during the last calendar year unless otherwise noted in the tables.

	Date(s) Collected	90TH percentile	Action Level (AL)	MCLG	# of sites sampled	# of sites above Action Level	Exceeds Action Level (Y/N)	Possible Source of Contamination
Lead (ppb)	9/23/14	2*	15	0	20	1	N	Corrosion of household plumbing systems
Copper (ppm)	9/23/14	0.2	1.3	1.3	20	0	N	Corrosion of household plumbing systems

* 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 home plumbing. The CVRWD is responsible for providing high-quality drinking water but cannot control the variety of materials used in plumbing and plumbing components. When your water is unused for several hours, you can minimize the potential for lead exposure by running 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 www.epa.gov/safewater/lead.

Turbidity	TT	Lowest Monthly % of Samples	Highest Detected Daily Value	Violation (Y/N)	Possible Source of Contamination
Daily Compliance (NTU)	5	-----	0.720	N	Soil runoff
Monthly Compliance*	At least 95% < 1 NTU	100%	-----	N	
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.					
*Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.					

Regulated Contaminant	Date(s) Collected	Highest Result or Running Annual Average	Range	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	5/17/16	0.012	----	2	2	N	Erosion of natural deposits;
Nitrate (ppm)	5/17/16	0.079	----	10	10	N	Runoff from fertilizers; natural deposits
Radioactive Contaminants							
Gross Alpha Activity (pCi/l)	5/17/16	0.296	0.296	15	0	N	Erosion of natural deposits
Radium (226 & 228) (pCi/l)	4/8/15	0.07	----	5	0	N	Erosion of natural deposits
Disinfectants and Disinfection By-Products							
Total Trihalomethanes (TTHMs) (ppb)	Quarterly	99*	26-99	80	**-----**	**Y**	Byproduct of drinking water chlorination
Haloacetic Acids (HAA5) (ppb)	Quarterly	5*	ND – 7	60	-----	N	Byproduct of drinking water disinfection
Free Chlorine (ppm)	Monthly	0.68*	0.12 – 0.68	4	4	N	Water additive used to control microbes
Chlorite (ppm)	Daily and Monthly	0.92**	0.61 – 0.92	1	0.8	N	Byproduct of drinking water chlorination
Chlorine dioxide (ppb)	Daily	730	630-730	800	800	N	Water additive used to control microbes

* Highest running annual average (RAA) is the highest average of four consecutive quarters. This value is used to determine compliance. TTHM and HAA5 compliance now uses the highest locational RAA.

** The chlorite compliance value is the average of a three-sample set, which is collected monthly.

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG or Health Advisory	Possible Source
Radon (pCi/L)	5/17/16	110*	----	----	10,000	Erosion of natural deposits
Sodium (ppm)	5/17/16	25**	----	----	20	Natural sources; runoff from road salt; by-product of treatment process
Manganese (ppb)	5/17/16	6***	----	50	300	Erosion of natural deposits

* Radon is a radioactive gas that you cannot see, taste, or smell. Radon can move from the ground and into a home through cracks in the foundation. Radon can also get into the air when released from tap water while showering, washing dishes, and cooking. Compared to radon entering the home through soil, radon in tap water is a small source of radon in indoor air. Breathing indoor air containing radon can lead to lung cancer. Drinking water containing radon may also increase the risk of stomach cancer. To learn more about radon in air and water, call

EPA's Radon Hotline at 800-SOS-RADON or consult the following EPA factsheet:
http://water.epa.gov/lawsregs/rulesregs/sdwa/radon/upload/Radon-Proposed-Consumer-Fact-Sheet.pdf
** Sodium-sensitive individuals, such as those experiencing hypertension, kidney failure, or congestive heart failure, should be aware of the levels of sodium in their drinking water where exposures are being carefully controlled.

***US EPA and MassDEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects.

CITY OF WORCESTER WATER QUALITY TESTING RESULTS

Turbidity	Maximum Turbidity Measured	Lowest Monthly % of Measurements Below Turbidity Limits	Number of Measurements > 1.0 NTU	Turbidity Limits (Combined For All Filters)
Turbidity (Combined for all filters)	0.257 NTU	100%	0	Less than or equal to 0.3 NTU in 95% of monthly measurements; No measurement can exceed 1 NTU.
Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of water quality.				
*Monthly turbidity compliance is related to a specific treatment technique (TT). Our system filters the water so at least 95% of our samples each month must be below the turbidity limits specified in the regulations.				

Regulated Contaminant	Date(s) Collected	Highest Result or Running Annual Average	Range	MCL	MCLG	Violation (Y/N)	Possible Source(s) of Contamination
Inorganic Contaminants							
Barium (ppm)	5/24/16	0.013	----	2	2	N	Erosion of natural deposits;
Radioactive Contaminants							
Gross Alpha Activity (pCi/l)	5/24/16	0.56	----	15	0	N	Erosion of natural deposits
Radium (226 & 228) (pCi/l)	5/24/16	0.14	----	5	0	N	Erosion of natural deposits
Volatile Organic Contaminants							
Dichloromethane (ppb)	5/4/16	2.2	ND – 2.2	5	0	N	Discharge from pharmaceutical and chemical factories
o-Dichlorobenzene (ppb)	5/4/16	0.6	ND – 0.6	600	600	N	Discharge from industrial chemical factories
p-Dichlorobenzene (ppb)	5/4/16	0.7	ND - 0.7	5	5	N	Discharge from industrial chemical factories
Chlorobenzene (ppb)	5/4/16	1.9	ND – 1.9	100	100	N	Discharge from and agricultural chemical factories

Unregulated and Secondary Contaminants	Date(s) Collected	Result or Range Detected	Average Detected	SMCL	ORSG or Health Advisory	Possible Source
Sodium (ppm)	5/17/16	25**	----	----	20	Natural sources; runoff from road salt; by-product of treatment process
Nickel (ppb)	5/24/2016	1	----	----	100	Discharge from domestic wastewater, landfills, and mining/smelting operations
Manganese (ppb)	5/28/15	15***	----	50	300	Erosion of natural deposits

Other Analysis

The compounds in this table are general measures of water chemistry. There are no established limits for these compounds since they are not recognized as having significant health effects at levels found in drinking water. These compounds are sometimes referred to as secondary contaminants. At certain levels some of these may discolor the water or create a bad taste. Many of these measurements are made as another way of tracking the effectiveness of Worcester's treatment processes.

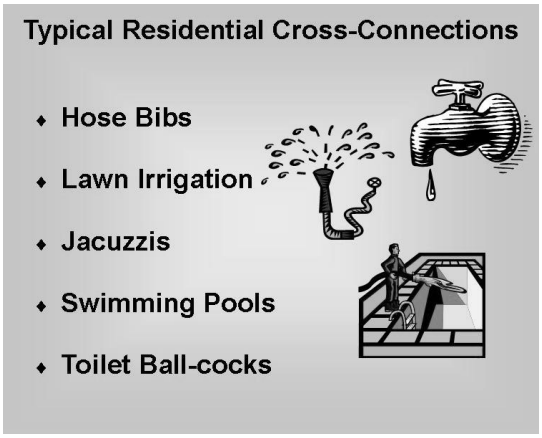
SUBSTANCE	AVERAGE	RANGE DETECTED	TYPICAL SOURCE
Alkalinity	10.7 ppm	7.7-14.9 ppm	Naturally occurring. Buffering capacity of water.
Aluminum	0.045 ppm	0.006-0.340 ppm	Natural sources and water treatment processes.
Calcium	9.5 ppm	<0.001-12.0 ppm	Natural Sources and water treatment processes.
Chloride	33 ppm	29-45 ppm	Natural and manmade sources.
Conductivity	175 umhos/cm	144-222 umhos/cm	An indirect measure of dissolved solids.
Hardness	29 ppm	7-35 ppm	Naturally occurring. An indirect measure of Calcium and Magnesium.
Iron	0.063 ppm	<0.005-0.990 ppm	Natural sources and old water mains.
Orthophosphate	0.591 ppm	0.406-0.930 ppm	Added to water during treatment as corrosion inhibitor.
pH	7.4 units	7.06-8.32 units	Measure of the acidity or basicity of water.
Sulfate	11.4 ppm	7.6-13.4 ppm	Natural sources and water treatment processes.
Temperature	15 ^{0}Celsius	2-26 ^{0}Celsius	Natural processes.
Total Organic Carbon	2.0 ppm	1.67-2.42 ppm	Natural sources.
Total Phosphate	1.07 ppm	0.72-2.29 ppm	Added to water during treatment as corrosion inhibitor.
Zinc	0.004 ppm	<0.001-0.017 ppm	Natural sources and some galvanized plumbing material.

IMPORTANT INFORMATION

Cross Connections

A cross connection is a connection between a drinking water pipe and a polluted or non-potable source. Fluctuation in water pressure can cause water to be siphoned or sucked backwards through pipes and hoses. Hoses are the most common extension of a plumbing system and the item most likely to cause an accidental poisoning of your water. Hoses are often connected to swimming pools, laundry sinks and lawn chemical sprayers. Water flowing backwards into your home will bring contaminants or poisons with it. To prevent this from happening, every hose faucet connection should have a device called a **Hose Bibb Vacuum Breaker**. These are inexpensive and are available from your local plumbing contractor or supplier. As required by Massachusetts Drinking Water Regulations, 310 CMR 22.22 (3) (b), the District has an approved Cross Connection Program Plan. This means that all cross connections in Cherry Valley and Rochdale Water District's businesses that are supplied by public water are surveyed by a certified backflow tester on an annual basis. For additional information on cross connections and the status of CVRWD's cross connection program, please contact us at (508) 892-9616.

Please see an example of a cross connection below:



Mandatory Water Ban - May 1, 2017 until September 30, 2017

The Board of Water Commissioners voted on June 13, 2011 to create Article X Outdoor Water Use Regulation which mandates water use restrictions effective **May 1, 2017 until September 30, 2017.** The new Regulation is in response to the **ANNUAL** conservation conditions set forth in the District's Water Management Act Permit issued by MassDEP. The purpose of the Regulation is to protect, preserve and maintain public health, safety, welfare and the environment by ensuring an adequate supply of water for drinking and fire protection and to protect the quality and quantity of water in local aquatic habitants such as ponds, rivers and wetlands.
A copy of this notice was distributed to all building occupants, tenants and water users.

Water Use Restrictions

Mandatory conservation which prohibits the following non-essential outdoor activities from occurring between the hours of 9:00 AM and 5:00 PM.
a). irrigation of lawns via automatic lawn sprinkler systems; **b).** washing of vehicles except in a commercial car wash; and **c).**washing of exterior building surfaces, parking lots, driveways or sidewalks, except as necessary to apply paint, preservatives, stucco, pavement or cement.

Definitions

Automatic sprinkler system shall mean any system for watering vegetation other than a hand-held hose or bucket.
Any person violating this by-law shall be liable to the District in the amounts listed below:

1). First violation: Written warning, 2). second violation: $200.00
3). Third violation: $300.00, 4). Fourth and subsequent violations: $500.00

Each day of violation shall constitute a separate offense. Fines shall be recovered by complaint before District Court, or by non-criminal disposition in accordance with section 21D of chapter 40 of the general laws. For purposes of non-criminal disposition, the enforcing person shall be any police officer of the town or the water superintendent or the superintendent's designee. If a State of Water Supply Emergency has been declared the water Commissioners may, in accordance with G.L. c 40, s. 41A, shut off water at the meter or the curb stop.
A complete copy of Article X- Water Use Restriction of the CVRWD Rules and Regulations can be viewed at the district's web site www.cvrwd.com

Water Conservation Public Outreach Information Tips and Useful Links:

Water conservation is an important way to protect our drinking water by ensuring that we don't diminish our resource. As much as 97% of the world's water is salt water, leaving 3% freshwater, two-thirds of which is stored as icecaps or glaciers. This leaves 1% of the world's water for drinking. Needless to say, water conservation will help all us sustain the precious 1%.
CVRWD water conservation public outreach information, tips and useful links to other water conservation web sites will be published and updated on www.cvrwd.com

Other Conservation Links:

http://www.wateruseitwisely.com/100-ways-to-conserve/index.php
http://eartheasy.com/live_water_saving.htm
http://www.ecy.wa.gov/programs/wr/ws/wtrcnsv.html

Water Conservation Tips for Residents

Outdoors

- When mowing your lawn, set the mower blades to 2-3 inches high. Longer grass shades the soil improving moisture retention, has more leaf surface to take in sunlight, allowing it to grow thicker and develop a deeper root system. This helps grass survive drought, tolerate insect damage and fend off disease.
- Apply mulch around shrubs & flower beds to reduce evaporation, promote plant growth and control weeds.
- Collect rainfall for irrigation in a screened container (to prevent mosquito larvae growth).
- Use a commercial car wash that recycles water - Let Mother Nature wash your car when it rains.
- Always use a broom to clean walkways, driveways, decks and porches, rather than hosing off these areas.
- Install covers on pools and spas and check for leaks around your pumps.
- Winterize outdoor spigots when temperatures dip below freezing to prevent pipes from leaking or bursting.

In the Kitchen

- When cooking, peel and clean vegetables in a large bowl of water instead of under running water.
- Collect the water you use for rinsing fruits and vegetables, then reuse it to water houseplants.
- Fill your sink or basin when washing and rinsing dishes.
- Soak pots and pans instead of letting the water run while you scrape them clean.
- Only run the dishwasher when it's full - When buying a dishwasher, select one with a "light-wash" option.
- Only use the garbage disposal when necessary (composting is a great alternative).

In the Bathroom

- Shorten your shower by a minute or two and you'll save up to 150 gallons per month.
- Turn off the water to brush teeth, shave and soap up in the shower. Fill the sink to shave.
- Repair leaky toilets. Add 12 drops of food coloring into the tank, and if color appears in the bowl one hour later, your toilet is leaking.
- Upgrade older toilets with water efficient models.
- Install a toilet dam, faucet aerators and low-flow showerheads.
- Run full loads of laundry - When doing laundry, match the water level to the size of the load.
- When purchasing a new washing machine, buy a water saving model that can be adjusted to the load size.

ADDITIONAL INFORMATION

Important Information about Leaks

Hole Diameter in Inches		Water wasted per month (gallons)	Water wasted per month (cubic feet)	Added cost to homeowner per month *
O	1/4	393,833	52,651	$10,854.47
O	1/8	98,666	13,190	$2,630.80
o	1/16	24,666	3,297	$569.10
ₒ	1/32	6,166	824	$119.65

*Based on CVRWD current rates

Having difficulty paying your bills?

We understand that due to the current economic status, many people are facing difficult decisions and are struggling to make ends meet. We want to inform the CVRWD customers, that if you are having difficulty paying your monthly water bill, we ask that you contact the District office at 508-892-9616 to communicate your situation. We are more than happy to help you to establish a payment plan or provide you with conservation suggestions that could reduce your future water bills. Again, we understand that everyone is experiencing hardships and we want to express our willingness to assist you.

New Payment Options!! ***Save time, Pay online!!***

Since July of 2014, CVRWD has been accepting online payments at **cvrwd.com.**