BOURNE WATER DISTRICT
211 BARLOWS LANDING RD.
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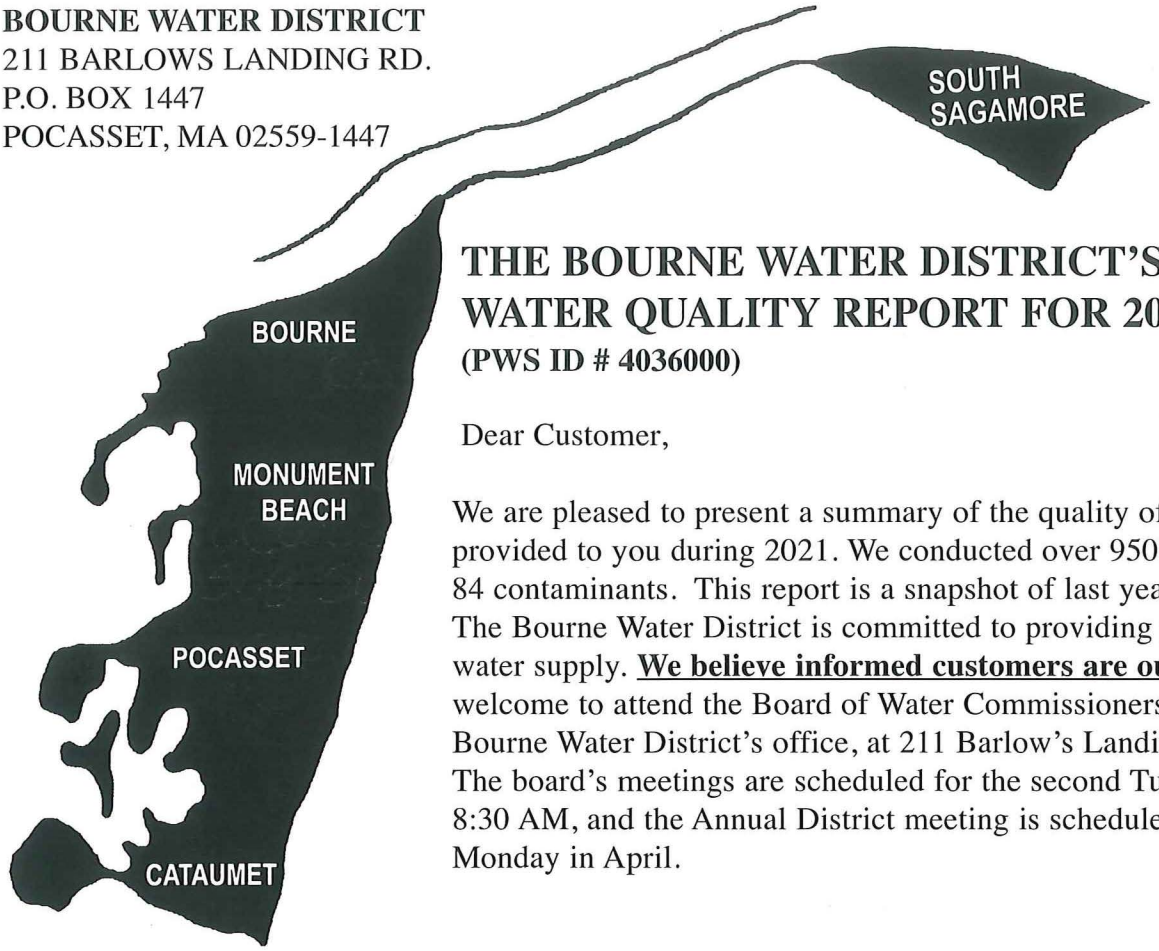


THE BOURNE WATER DISTRICT'S WATER QUALITY REPORT FOR 2021

(PWS ID # 4036000)

Dear Customer,

We are pleased to present a summary of the quality of the drinking water provided to you during 2021. We conducted over 950 tests for more than 84 contaminants. This report is a snapshot of last year's water quality. The Bourne Water District is committed to providing you with a reliable water supply. **We believe informed customers are our best allies.** You are welcome to attend the Board of Water Commissioners meetings held at the Bourne Water District's office, at 211 Barlow's Landing Road in Pocasset. The board's meetings are scheduled for the second Tuesday of the month at 8:30 AM, and the Annual District meeting is scheduled on the fourth Monday in April.

WATER SOURCES AND TREATMENT

The Bourne Water District is supplied by 10 different sources, 7 of our own gravel packed well sites and 3 gravel packed well sites from the Upper Cape Regional Water Supply Cooperative. Four of our well sites are in the Monument Beach area of the Town Forest. The other two wells are in the Cataumet area of the Town of Bourne. One well is on Joint Base Cape Cod and we have one transfer station on Connery Ave. The Bourne Water District treats all supplies with lime slurry for corrosion control. The lime slurry is used to raise the pH of the water. This makes the water less aggressive to the copper pipe and lead joints in your homes to prevent exposure to lead and copper.

WHAT DOES THE FOLLOWING TABLE MEAN?

Action Level (AL) The concentration of a contaminant which if exceeded triggers treatment or other requirements.
Maximum Contaminant Level (MCL) The highest level of a contaminant that is allowed in the drinking water. The MCL is set as close to the MCLG as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG) The level of a contaminant in the drinking water below which there is no known or expected risk to health. The MCLG allow for a margin of safety.
90th Percentile Out of every 10 houses sampled, 9 were below this level.

KEY TO TABLE

AL = Action Level
MCL = Maximum Contaminant Level
MCLG = Maximum Contaminant Level Goal
MFL = million fibers per liter
Mrem/year = millirems per year (a measure of radiation absorbed by the body)
NTU = Nephelometric Turbidity Units
pci/l = picocuries per liter (a measurement of radioactivity)
ppm = parts per million, or milligrams per liter (mg/l)
ppb = parts per billion, or micrograms per liter (ug/l)
ppt = parts per trillion, or nanograms per liter
ppq = parts per quadrillion, or picograms per liter
TT = Treatment Technique

	DISTRIBUTION SYSTEM WATER QUALITY This report summarizes only those items detected during Sampling-not all contaminants that are monitored					
Microbial Results	**Highest Detected**	**Range Detected**	**MCL**	**MCLG**	**Violation**	**Possible Source of Contamination**
Total Coliform Bacteria**	3	0-3	0	0	yes	Naturally present in the environment
Fecal Coliform or E. Coli	0	0	0	0	No	Human andAnimal Fecal Waste
*Compliance with the Fecal Coliform/E.Coli MCL is determined upon additional repeat testing						
**Total Coliform:Coliform are bacteria that are naturally present in the environment and are used as an indicator that other potentially harmful bacteria may be present						

Lead and Copper	**Dates collected**	**90th Percentile**	**Action Level**	**MCGL**	**# of sites sampled**	**# Sites above Action Level**	**Violation**	**Possible Source of Contamination**
Lead (ppb)	9/1/2021 thru 12/31/2021	0.0018	15	0	30	0	No	Corrosion of household plumbing systems: Erosio of natural deposits
Copper (ppm)	9/1/2021 thru 12/31/2021	0.1	1.3	1.3	30	0	No	Corrosion of household plumbing systems: Erosio of natural deposits

TESTING FOR LEAD - If present, elevated levels of lead can causse serious health problems,especially for pregnant women and young childern. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing .Bourne Water District is responsible for providing high quality drinking water,but cannot control the variety of materials used in plumbing components.When you water has been sitting for several hours,you can minimize the potental for lead exposure by flushing you 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 about 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.

Regulated Contaminants	**Date(s) collected**	**Highest Detect Value**	**Range Detected**	**MCL**	**MCGL**	**Violation**	
Inorganic Contaminants:							
Barium (ppm)	2021	0.009	0-0.009	2	2	No	Discharge of drilling waste; discharge from metal refineries;erosion of natural deposits
Nitrate * (ppm)	2021	0.92	0.03-0.92	10	10	No	Runoff from fertilizer use;leaching from septic tanks;sewage;erosion of natural deposits
Perchlorate ** (ppb)	2021	0	0	2	-	No	Rocket propellants,fireworks,munitions ,flares,blasting agents* (see note below)
Radioactive contaminants							
Gross Alpha Particle	2021	1.01pci/L	0.89-1.01pci/L	15 pci/L		No	
Radium 226 & 228	2021	1.22 pci/L	.42-1.22 pci/L	5 pci/L combined		No	
Organic Contaminants							
Tetrachloroethylene(PCE)(ppb)	2021	1.27	0-1.27	5	-	No	Discharge from factories and dry cleaners
Chloroform (ppb	2021	1.68	.66-1.68	ORSG 70	NA	No	By-product of drinking water chlorination
CIS-1,2 Dichloroethylene (ppb)	2021	1.86	0-1.86	70	NA	No	Runoff from fertilizer use;leaching from septic tanks;sewage;erosion of natural deposits

Secondary Contaminents	**Date(s) collected**	**Highest Detect Value**	**Range Detected**	**SMCL**	**OSRG**	**Possible Source of Contamination**
Magnesium (ppm)	2021	3.1	1.0-3.1	-	-	Natural Mineral and Organis Matter
Chloride (ppm)	2021	46	7.3-46	250	NA	Natural Mineral, Road Salt
Calcium (ppm)	2021	25	6.1-25	-	-	Natural Mineral and Organis Matter
Iron (ppb)	2021	0	0	300	NA	Erosion of Natural Deposits and oxidation of iron components
Manganese (ppb)*	2021	0.008	0-.008	50	NA	Erosion of Natural Deposits
Sodium(ppm)**	2021	28**	6.6-28	-	20	Road Salting;erosion of natural deposits
Potassium (ppm)	2021	0.9	.4-.9	-	-	Natural Mineral and Organis Matter
Sulfate (ppm)	2021	8.2	5.1-8.2	250	250	Natural Sources
Zinc (ppm)	2021	0	0	5	NA	Erosion of Natural Deposits,and industrial discharge
Aluminum	2021	0.078	.017-.078		0.2	
PER and POLYFLUOROALKYL						
PFOS total of 6 (ppt)	2021	3.31	0-3.31	20 ppt		

NATIONAL PRIMARY DRINKING WATER REGULATION COMPLIANCE

The Total Coliform rule requires water systems to meet a stricter limit for Coliform bacteria. Coliform bacteria are harmless, but the presence in water can be an indication of disease-causing bacteria. When Coliform bacteria is found, special follow up tests are done to determine if harmful bacteria are present in the water supply. Over 500 Coliform samples were taken throughout the Bourne Water District in the year 2021. In September 2021 Bourne Water District had one detect of Total Coliform from a sample taken at the South Sagamore glass tank. Bourne Water District chlorinated the tank and rectified the issue. Bourne Water District completed the process with a Level 2 Assessment of the site and has not had any other Total Coliform hits anywhere in the system.

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead and copper in drinking water is primarily from materials and components associated with service lines and home plumbing. The Bourne Water District 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 and copper exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead and copper in your water, you may wish to have your water tested. Information on lead and copper 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.

Sodium; ORSG = 20 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 carefully being controlled.
Massachusetts Office of Research and Standard Guidelines (ORSG): This is the concentration of a chemical in drinking water, at or below which, adverse health effects are likely to occur after chronic (lifetime) exposure, with a margin of safety. If exceeded, it serves as an indicator of the potential need for further action.

If you are interested in a more detailed report, contact Robert Prophett at 508-563-2294.

PER and POLYFLUOROALKYL SUBSTANCES (PFA's and PFOA's)
Bourne Water District has been sampling for Per and Polyfluoroalkyl contaminants since the start of the Unregulated Contaminant Monitoring Rule (UCMR) in 2013 and reporting the detections in our yearly CCR. Bourne Water District has a small detect at 3.31 ppt at one of our well sites in Cataumet. As slight as it may be, Bourne Water has been and will continue to monitor and rectify the cause. Along with this CCR please find MASS Dep's Quick Reference Guide and feel free to contact Robert Prophett at 508-563-2294 with any questions and concerns.

REQUIRED ADDITIONAL HEALTH INFORMATION:
To insure that tap water is safe to drink, Department of Environmental Protection (DEP) and Environmental Protection Agency (EPA) prescribes limits on the amounts of certain contaminants in water provided by public water systems. Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency Safe Drinking Water Hotline (1-800-426-4791).The sources of drinking water (both tap and bottled) 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 radioactive material and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in the sources include:

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

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

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

(D) Organic chemical contaminants, including synthetic and volatile organics which are by-products of industrial processes and petroleum production and can also come from gas stations, urban storm water runoff and septic systems.

(E) Radioactive contaminants, which can be naturally occurring or be the results of oil and gas production and mining activities. In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which must provide the same protection for public health.

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infections by Cryptosporidium are available from the Safe Drinking Water Hotline (1-800-426-4791).

SOURCE WATER ASSESSMENT
The Bourne Water District had a source water assessment performed by the MA. Department of Environmental Protection in 2002. The Source Water Assessment and Protection (SWAP) program, established under the Federal Safe Drinking Water Act requires every state to:

- Inventory land uses within the recharge areas of all public water supply sources.
- Assess the susceptibility of drinking water sources to contamination from these land uses.
- Publicize the results to provide support for improved protection.

A susceptibility ranking of high was assigned to the Bourne Water District using the information collected during the assessment by the DEP. The high ranking was due to the potential contamination from land uses such as auto repair shops, truck terminal, furniture refinishing, auto salvage operation, an industrial park and activities in the recharge area (Zone II's)of some of the wells. The complete SWAP report is available at the Bourne Water District's office. For more information contact Robert Prophett at 508-563-2294.

CROSS CONNECTION

A cross connection is a connection between a drinking water pipe and a polluted source. The pollution can come from your own home. For instance, you're going to spray fertilizer on your lawn, and you hook up your hose to the sprayer that contains the fertilizer. If the water pressure drops (say because of a fire hydrant being used or water main break) when the hose is connected to the fertilizer sprayer, the fertilizer may be sucked back into the drinking water pipes through your hose. Using an anti-siphon backflow-prevention device on your sprayer or hose bib can prevent this problem.
The Bourne Water District recommends using devices with an anti-siphon feature or equipping hose bibs with hose bib vacuum breakers to prevent against back flow. For additional information on cross connections and on the status of your water system's cross connection program, please contact Robert Prophett at 508-563-2294.

UPPER CAPE REGIONAL WATER SUPPLY COOPERATIVE
2021 Consumer Confidence Report (PWS ID # 4261024)

The Upper Cape Regional Drinking Water Supply Cooperative consists of three groundwater supply wells located in Sandwich, MA on Joint Base Cape Cod (JBCC). A Board of Managers representing four-member public water supply systems manages the Cooperative. The Cooperative has the capacity to provide a supplemental supply of water to its member public water systems, which include the Town of Falmouth, the Bourne Water District, the Mashpee Water District and the Sandwich Water District. The Cooperative also supplies water to the Otis Air National Guard public water system on JBCC and the Barnstable County Jail.
Wells #1, #2 and #3 are located in a forested area of the northeastern portion of the JBCC. In July 2004, the Department of Environmental Protection completed a source water assessment (SWAP) report for the Cooperative water supply wells. A SWAP report is a planning tool to support local and state efforts to improve water supply protection by identifying land uses within water supply protection areas that may be potential sources of contamination. The report identifies potential sources of contamination including a gas station, a medical facility and a military facility, and helps focus protection efforts on appropriate Best Management Practices. A susceptibility ranking of high was assigned to the Cooperative using information that was collected during the assessment. A copy of the report is available, upon request, from the Cooperative. JBCC has adopted a Groundwater Protection Plan to prohibit inappropriate activities on JBCC property within the Zone II areas of community public water supply wells. In addition, the Environmental Management Commission provides oversight over activities on the northern portion of the JBCC. For questions regarding SWAP or other information contained within this document call Marisa Picone-Devine at 508-888-7262.
Our system, out of an abundance of caution and concerns about PFAS, sampled for PFAS compounds (PFBS, PFHpA, PFHxS, PFNA, PFOA, and PFOS) at all three wells in 2019 and 2020; there were no detections of any of the analytes in any of the samples.

2021 WATER QUALITY DATA

Listed below are the substances detected in water samples collected during the most recent sampling period from the three (3) wells that comprise the Upper Cape Drinking Water Supply Cooperative.

2021 WATER QUALITY DATA

Listed below are the substances detected in water samples collected during the most recent sampling period from the three (3) wells that comprise the Upper Cape Drinking Water Supply Cooperative.

Inorganic Contaminants	Year Sampled	Highest Result	Range of Detections	MCL	MCLG	Violation (Y / N)	Possible Sources
Barium	2020	0.002 ppm	0.002 ppm	2 ppm	2 ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate	2021	0.11 ppm	0.07 ppm – 0.11 ppm	10 ppm	10 ppm	No	Runoff from fertilizer use; Leaching form septic tanks, sewage; Erosion of natural deposits
Radioactive Contaminants	**Year Sampled**	**Highest Result**	**Range of Detections**	**MCL**	**MCLG**	**Violation (Y / N)**	**Possible Sources**
Gross Alpha	2021	-.210 (+-.331) pCi/l	-.210 (+-.331) pCi/l	15 pCi/l	0	No	Erosion of Natural Deposits
Radium 226 & 228	2021	0.377 pCi/L	0 – 0.377 pCi/l	5 pCi/l	0	No	Decay of natural and manmade deposits
Unregulated and Secondary Contaminants	**Year Sampled**	**Amount Detected**	**Range of Detections**	**SMCL**	**ORSG**	**Violation**	**Possible Sources**
Chloroform	2021	1.81 ppb	1.39 -1.81 ppb	NA	70 ppb	No	Trihalomethane: by-product of drinking water chlorination. In non-chlorinated sources, chloroform may be naturally occurring
Chloride	2021	9.3 ppm	7.4 - 9.3 ppm	250 ppm	–	NO	Runoff and leaching from natural deposits; seawater influence
Copper	2021	0.041 ppm	0.022-.041 ppm	1 ppm	–	No	Internal corrosion of household plumbing; erosion of natural deposits
Sodium	2020	5.4 ppm	5.4 ppm	–	20 ppm	No	Natural erosion, road salt
Sulfate	2021	5.5 ppm	4.7 – 5.5 ppm	250 ppm	–	No	Runoff and leaching from natural deposits; industrial wastes
Zinc	2021	0.017 ppm	ND – 0.017 ppm	5ppm	–	No	Corrosion of household plumbing systems; erosion of natural deposits

Per- and Polyfluoroalkyl Substances (PFAS) Drinking Water Regulations Quick Reference Guide

MassDEP
Commonwealth of Massachusetts
Department of Environmental Protection

Overview of the Rule

Title	Per- and Polyfluoroalkyl Substances (PFAS) compliance requirements for Public Water Systems (PWS) - 310 CMR 22.07G
Purpose	Increase public health protection through the reduction of chemicals that have been linked to a variety of health risks, particularly for sensitive subgroups including pregnant women, nursing mothers and infants.
General Description	The amended Massachusetts Drinking Water Regulations establish a Maximum Contaminant Level (MCL) of 0.000020 milligrams per liter (mg/l) or 20 ng/l (also called parts per trillion or ppt) for the sum of six PFAS compounds (PFOS, PFOA, PFHxS, PFNA, PFHpA and PFDA), known as PFAS6. The regulations detail the sampling requirements and corrective actions that PWS must take when the MCL is exceeded, as well as the provisions for public education and notice of exceedances so that communities can be educated and proactive in protecting their drinking water quality.
Utilities Covered	The PFAS6 MCL applies to Community PWS and Non-transient, Non-community PWS. Transient Non-community PWS must collect a PFAS sample under the regulations and would be subject to a site-specific health assessment for elevated levels.

- This document provides a summary of MassDEP drinking water requirements; to ensure full compliance, please consult the regulations at 310 CMR 22.07G.

Public Health Benefits

Implementation of the PFAS regulations will result in:

- Monitoring for and identifying any elevated PFAS levels in public drinking water.
- Corrective actions that reduce drinking water exposures to PFAS6 to below the levels that may cause a variety of health effects to sensitive subgroups, including developmental effects in fetuses and infants, effects on the liver, blood, immune system, thyroid, and may elevate the risk of certain cancers..

Critical Dates and Deadlines

October 2, 2020	MassDEP published its PFAS regulations establishing an MCL of 0.000020 milligrams per liter (mg/l) or 20 ng/l (also called parts per trillion or ppt) for the sum of PFAS6.
January 1, 2021	Large Community (COM) and Non-transient Non-community PWS (NTNC) (schools, workplaces, etc.) serving more than 50,000 people will begin regulatory compliance monitoring.
April 1, 2021	COM and NTNC PWS serving between 10,000 and 50,000 people will begin regulatory compliance monitoring.
October 1, 2021	Small COM and NTNC PWS serving 10,000 or fewer people will begin regulatory compliance monitoring.
September 30, 2022	Transient Non-community PWS (such as hotels and restaurants) must collect, analyze and report sampling results by this date.

Federal Drinking Water Standards

There are currently no federal PFAS drinking water standards. However, USEPA has a health advisory of 70 ppt for the sum of PFOA and PFOS.

What are the Major Provisions?

Sampling Locations

- PWS must sample at every entry point to the distribution system.
- PWS that draw water from more than one source, where the sources are combined before distribution, must collect samples that are representative of all such combined sources after treatment during periods of normal operating conditions.
- Consecutive PWS are exempt from conducting compliance monitoring for PFAS for the purchased portion of water when the PWS from which the water is obtained has conducted the required monitoring.

Initial Monitoring (First Year)

- Four consecutive quarterly samples must be collected.
- Each sample shall be collected in the first month of every quarter during initial monitoring.
- The PWS may ask MassDEP to substitute previously conducted quarterly sampling.
- If no PFAS is detected in the first two quarters of monitoring, the PWS may request to have MassDEP waive the third and fourth quarters of monitoring.

Routine Monitoring

- If initial monitoring does not identify any PFAS a PWS may monitor during one year of each subsequent three-year Compliance Period.
- PWS serving more than 3,300 individuals must collect two quarterly samples in that year.
- PWS serving fewer than or equal to 3,300 individuals must collect one sample in that year.

Monitoring Waivers

- After January 1, 2023, a PWS on routine monitoring may request a monitoring waiver from MassDEP.
- Waivers cover a single three-year Compliance Period and must be renewed each Compliance Period.
- Sampling under an approved waiver shall occur at least once during the first Compliance Period of each successive nine-year Compliance Cycle.

Confirmatory Sampling Requirements

- Initial Monitoring: The first detection of PFAS during initial monitoring, not just the detection of PFAS6, triggers confirmation sampling.
- Initial Monitoring: After first detection, subsequent PFAS6 detection greater than 10 ppt triggers confirmation sampling.
- Routine Monitoring: Confirmatory sampling is required when PFAS6 is detected greater than 10 ppt during routine monitoring unless MassDEP determines that the location is Reliably and Consistently below the MCL.
- The confirmatory sample must be collected as soon as possible after receipt of result requiring confirmation and no later than two weeks from receipt of such result (unless granted a MassDEP extension).
- A detection is defined as any PFAS contaminant level greater than the lab's minimum reporting level (MRL). All certified labs must achieve an MRL of 2 ppt or lower for the six PFAS covered by the MCL.

Increased Monitoring if PFAS is detected

Monthly monitoring	• If the average of a PFAS6 result and its associated confirmatory sample is greater than 10 ppt, the sampling location must be sampled monthly. • Monthly sampling continues until the source is shown to be Reliably and Consistently Below the MCL.

Quarterly monitoring	• A PWS that has installed PFAS treatment and is thereby Reliably and Consistently Below the MCL will be put on quarterly monitoring.
Annual monitoring	• If the initial monitoring is complete and PFAS is detected but PFAS6 is confirmed less than 10 ppt, the location must be sampled annually. • A PWS that is determined by MassDEP to be Reliably and Consistently Below the MCL without having to install PFAS treatment may be put on annual monitoring.

Public Education

- Any PWS where there has been a PFAS6 detection, and the average of such detection and an associated confirmatory sample exceeds the PFAS6 MCL, shall provide public education materials regarding the exceedance, as described by MassDEP. These should be provided as soon as possible, but within 30 days.
- Until the PWS obtains a monitoring result at or below the PFAS6 MCL at such locations, public education should be updated quarterly.

Compliance and Violations

- MCL compliance is calculated using the average of the monthly samples over a quarter.
- If any one sampling point location is in violation, then the PWS shall be considered in violation.
- If any sample result would cause the quarterly average to exceed the PFAS6 MCL, the PWS is immediately in violation and begins compliance actions.

Public Notice

- A violation of the MCL requires a Tier 2 Public Notice.
- Monitoring & testing procedure violations require Tier 3 Public Notice.

Seasonal System Provisions

If a PWS reactivates an existing source or opens a seasonal system after the applicable commencement date of this regulation, it shall commence initial monitoring of such locations within the first month of delivering water to the public.

MassDEP Technical Assistance and Grants

- Free testing is available until June 30, 2021 for PWS to sample drinking water for PFAS.
- The Commonwealth provided grant funding in October 2020 to assist PWS in the planning and design of treatment systems to remove PFAS Another round of grant funding is anticipated.
- MassDEP has made PFAS-reducing drinking water projects a priority in the 2021 State Revolving Fund (SRF) Loan Program. PFAS mitigation projects may be eligible to receive an additional subsidy in the form of a 0% interest rate loan. The additional subsidy is contingent on the availability of funds and approval of the Massachusetts Clean Water Trust Board of Trustees. For more information: https://www.mass.gov/doc/drinking-water-program-updates-2-13-2020/download

Key Point for PWS to Remember

- All confirmed detections of PFAS6 > 20 ppt require public education.

For additional information on the PFAS6: Visit the MassDEP website at https://www.mass.gov/info-details/per-and-polyfluoroalkyl-substances-pfas; email the MassDEP Drinking Water Program at program.director-dwp@mass.gov; or call the MassDEP Drinking Water Program at 617-292-5770.

THIS DOCUMENT CONTAINS IMPORTANT INFORMATION FOR YOUR SYSTEM. HAVE SOMEONE TRANSLATE IT FOR YOU OR SPEAK WITH SOMEONE WHO UNDERSTANDS IT.

If you need this document translated, please contact MassDEP's Diversity Director, Michelle Waters-Ekanem, Diversity Director/Civil Rights: 617-292-5751 TTY# MassRelay Service 1-800-439-2370. You may also contact the Drinking Water Program at program.director-dwp@mass.gov.

Town of Falmouth

Annual Drinking Water Quality Report 2021
Mass DEP PWSID # 4096000

PUBLIC WATER SYSTEM INFORMATION: The Town of Falmouth's water system is operated by the Department of Public Works – Water Division, under the direction of Superintendent Cathal O'Brien. The Department and the Superintendent can be contacted by phone at 508-457-2543 or at cathal.obrien@falmouthma.gov Producing drinking water that meets all regulatory requirements today and in years to come requires timely investment in the infrastructure of the system with treatment upgrades, piping maintenance and replacement, and evaluation and development of secure sources of water for future needs. The investments required and the costs of operation are supported through the water rates and debt financing for major capital projects. Please review this report carefully, it is intended to increase your awareness of our water issues and contains important information about our water system.

OPPORTUNITIES FOR PUBLIC PARTICIPATION: We welcome and encourage your input, participation, and support on the implementation, planning and financing of system improvements. In October of 2017 the Long Pond Water Treatment Plant was placed into service providing high quality ozonated and filtered water into the system. We are continuing with planning and implementing other necessary projects such as a system wide flushing of the water pipes and identifying and securing additional sources of water. Planning also includes development of a program for the replacement of old and undersized water mains. As we progress on these future initiatives, we will be making presentations to citizen groups, Town Boards, the Board of Selectmen and at precinct and Town Meetings. The department's home page is https://www.falmouthma.gov/314/Water and contains additional information. We encourage you to attend informational meetings and to get involved.

REGULATORY COMPLIANCE: This report provides a snapshot of the quality of the drinking water and a summary of the water system. Included are details about where your water comes from, what it contains, and how it compares to state and federal standards. The Falmouth Water Department takes pride in ensuring delivery of a quality product. We have an extensive and ongoing program of sampling by independent labs to monitor the quality of the water from each of our six active sources of water. The system is also regulated by the Massachusetts Department of Environmental Protection (Mass DEP) who review our sampling results and monthly operating records. With six sources of water, each with its own unique raw quality necessitates that we use a variety of site-specific treatment to achieve compliance. The system is overseen 24/7 by a team of Certified Operators trained in treatment operation as well as operation of the distribution system. The staff takes pride in achieving compliance with regulatory requirements and providing our customers safe, reliable drinking water. We intend to continue that tradition in 2022.

WATER CONSERVATION EFFORTS: The Town is allocated a finite amount of water each year under the provisions of the Water Management Act. The allocation is set by the State based on the number of system users, an expectation that there is minimal leakage, and that users are prudent and conservative in their consumption of water. With the seasonal water demands of our community, the variable population, and the age of our pipes compliance with these regulations is an ongoing challenge. Our success in compliance will directly impact obtaining the approvals needed to develop additional supplies of water. Supplies that are necessary to sustain our community. Water conservation and prudent supply management is key to the long-term availability of our water supplies**.** As part of management of usage, Conservation Measures are necessary and have been implemented to achieve the goals of regulatory compliance and water conservation. A conscientious effort by everyone in the community is necessary for these conservative measures to have a positive effect. The Town therefore implemented the following Conservation Measures:

- Watering of lawns is limited to 3 days based on house #: ODD=Tuesday/Thursday/Saturday & EVEN=Wednesday/Friday/Sunday.
- Washing of sidewalks, patios and driveways is prohibited (excluding businesses for safety / health reasons).
- Pistol-grip nozzles are required for all hoses used for washing cars and all hoses at dockside facilities.
- Restaurants may only serve water when requested by patrons.

FALMOUTH'S WATER SUPPLY. There is a single body of water, the Sagamore Lens, that is our water supply. We draw water from the Lens at six locations, a combination of surface water and ground water. The piping system that distributes the water consists of over 300 miles of water main and over 21,000 water services. All water is treated with Sodium Hydroxide to stabilize the pH at a value of 7.8 to 8.4. All water is disinfected with Sodium Hypochlorite.

The largest source is Long Pond. Water from Long Pond is treated using dissolved air floatation to remove algae, ozonation for taste and odor reduction, and dual media, activated carbon filtration followed by disinfection and pH control.

The Crooked Pond Well and the Coonamessett Well pump to the Crooked Pond Treatment Facility. The treatment process consists of air-stripping, activated carbon adsorption and manganese-greensand filtration followed by disinfection and pH adjustment.

The water from the Mares Pond Well, and the Upper Cape Regional Water Supply Cooperative is disinfected, and pH adjusted. The Fresh Pond well was taken out of service in April of 2017 due to levels of perchlorate more than the State regulatory limit of 2ppb. In 2018 we piloted treatment of that water with an ion exchange filter, and we are working with the DEP to place that source back in service with appropriate treatment as of May 2022.

IS OUR WATER SAFE TO DRINK? Yes. Some people may be more vulnerable to contaminants in drinking water than the general population. Immune-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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium are available from the Safe Drinking Water Hotline (800-426-4791). Our water system makes every effort to provide you with safe and pure drinking water. All surface waters and some ground water sources contain numerous microorganisms some of which can cause people to be sick. To eliminate disease carrying organisms it is necessary to disinfect the water. Disinfection does not sterilize

the water, but it does destroy harmful organisms. We utilize sodium hypochlorite at all our sources for disinfection. Disinfection with chlorine has been proven effective at ensuring that water is free of harmful organisms and safe to drink.

CORROSION OF INTERNAL HOUSEHOLD PLUMBING: Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing system. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested by a laboratory. Flushing your tap for 30 seconds to 2 minutes before using can reduce lead levels. Additional information is available from the Safe Drinking Water Hotline (800-426-4791). **Forty-seven samples were tested for lead and copper in 2021. Forty of the samples were below the detection limit for lead. Seven had measurable values. None were above the MCL for lead of 0.015 mg/l. The town complied with a regulatory limit that 90 percent of samples must be below the lead MCL. None of the forty-seven copper samples taken during 2021 exceeded the acceptable level of 1.3 mg/l. The 90th percentile for copper was 0.095 mg/l.**

SUBSTANCES FOUND IN TAP WATER: Drinking water, including bottled water, frequently contain at least small amounts of some contaminants at levels below the maximum contaminant level. 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. 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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline. The 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. The Environmental Protection Agency (EPA) and the state Department of Environmental Protection (DEP) prescribe regulations which limit the number of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water which must provide the same protection for public health. More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline
(1-800-426-4791).

In nature, all water contains some impurities. As our water filters through layers of soil and rock in the ground that make up the Sagamore Lens, it dissolves or absorbs the substances that it touches. Most of these substances are harmless. However, at certain levels, minerals, just like man-made chemicals are considered contaminants that can make water unpalatable or even unsafe. In order to ensure that tap water is safe to drink, EPA and Mass DEP prescribes regulations, which limit the number of certain contaminants in water provided by public water systems. 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. Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites, which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches. **Cryptosporidium:** Testing was performed nine times in 2017 and the results were ND (non-detect). Cryptosporidium is a microbial parasite that has been found in surface water throughout the U.S. Ingestion of cryptosporidium may cause cryptosporidiosis, an abdominal infection. Symptoms of infection include nausea, diarrhea, and abdominal cramps. Most healthy individuals can overcome the disease within a few weeks. Cryptosporidium must be ingested for it to cause disease and may be passed through other means than drinking water.
- **Inorganic contaminants** such as salts and metals, which can be naturally occurring or result from storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- **Pesticides and herbicides** which may come from a variety of sources such as agriculture, storm water runoff, and residential uses.
- **Organic chemical contaminants** including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff and septic systems.
- **Radioactive contaminants** which can be naturally occurring or be the result of oil and gas production and mining activities. **Radon** – No tests were performed for Radon. The United States Environmental Protection Agency sets drinking water standards and has determined that radon is a health concern at certain levels of exposure. Radon is a naturally occurring radioactive contaminant that occurs in groundwater. It is a gas and is released from water into household air during water use. Radon has been found in epidemiology studies to cause lung cancer in humans at high exposure levels. At lower exposure the risk of lung cancer is reduced. Presently EPA is reviewing a standard for radon in water. Radon is a radioactive gas that you cannot see, taste, or smell. It is found throughout the United States. Radon can move up through the ground and into a home through cracks and holes in the foundation. Radon can build up to high levels in all types of homes. Radon can also get into indoor air when released from tap water from showering, washing dishes, and other household activities. Compared to radon entering the home through soil, radon entering the home through tap water will be (in most cases) a small source of radon in indoor air. Radon is a known human carcinogen. Breathing air containing radon can lead to lung cancer. Drinking water containing radon may also cause increased risk of stomach cancer. If you are concerned about radon in your home, test the air in your home. Testing is inexpensive and easy. Fix your home if the level of radon in your air is 4 picocuries per liter of air (pCi/L) or higher. There are simple ways to fix a radon problem that aren't too costly. For additional information on radon, call the Massachusetts Department of Public Health, Radon Program at 413-586-7525 or call EPA's Radon Hotline, 800-SOS-RADON.

- **Unregulated contaminants** are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted. Unregulated contaminants were last evaluated in 2013. Compounds detected in the Falmouth sources are tabulated in the table above.

Results of 2013 testing	Reported Level	Range
Strontium ppb	27	24-32
Vanadium ppb	0.10	ND-0.35
Hexavalent Chromium ppb	0.05	ND-0.09
Chlorate ppb	163	ND-330

CROSS CONNECTIONS: To protect the public potable water supply from the possibility of contamination or pollution by isolating contaminants or pollutants which could backflow or back-siphon into the public water system backflow preventers are installed at facilities that pose a risk. To promote the elimination or control of existing cross connections, actual or potential, between its customers in-plant potable water system, and non-potable systems. To provide for the maintenance of a continuing program of cross connection control which will effectively prevent the contamination or pollution of all potable water systems by cross connection. For information regarding our program please visit our website at https://www.falmouthma.gov/314/Water .

SOURCE WATER PROTECTION: Mass DEP has prepared a Source Water Assessment Program (SWAP) Report for the water supply source(s) serving this water system. The SWAP Report assesses the susceptibility of public water supplies to potential contamination by microbiological pathogens and chemicals. The report commends the Town for its proactive source protection efforts to reduce risks and promote water resource education. All of our water sources are considered highly susceptible (except Mares Pond Well = medium susceptibility) to contamination from a variety of sources such as: fuel spills, fertilizer use, MMR plume migrations and septic systems. The complete SWAP report is available on-line at wttp://www.mass.gov/dep/water/drinking/swapreps.htm. For more information contact the Massachusetts Department of Environmental Protection at (508) 946-2766. Residents can help protect sources by: Practicing good septic system maintenance, supporting water supply protection initiatives, taking hazardous household chemicals to hazardous materials collection days, and limiting pesticide and fertilizer use.

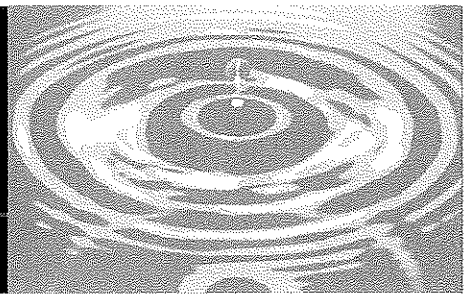
DEFINITIONS: **MCLG** – Maximum Contaminant Level Goal, or the level of a contaminant in drinking water below which there are no known or expected health risks. **MCL** – Maximum contaminant level, the highest level of a contaminant that is allowed in drinking water. **AL** - Action level, or the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow. **TT** – Treatment technique, or required process intended to reduce the level of a contaminant in drinking water. **MRDLG** – Maximum residual disinfectant level goal or the level of drinking water disinfectants below which there is no known or expected health risk. **MRDL** – Maximum residual disinfectant level or the highest level of a disinfectant allowed in drinking water. Abbreviations: **NA** – not applicable, **ND** – none detected, **NR** – not regulated, **NTU** – Nephelometric Turbidity Units, **PPM** – parts per million, **PPB** – parts per billion,**PPT**- parts per trillion, **PPQ**- parts per quadrillion, **MFL** – million fibers per liter, **pCi/L** – pico curies per liter, a measurement of radioactivity. **CASRN** - Chemical Abstract Services Registry Number. MDL- maximum daily load.

WATER QUALITY SUMMARY: Each year, your water is collected and tested for over 100 possible impurities. The following Table provides information about key sample parameters including all substances that have been detected above the recommended MCL in the 2021 water quality testing. In total, over 2,000 samples were taken throughout 2021**. Perfluorocarbons (PFAS) were sampled for and only detected at Mares Pond Well – the level there was 2.12-2.42 ng/L, below the MCL of 20.00 ng/L, and all other sources were ND.**

2021 Water Quality Results

Contaminant/Unit of Measure	Number detected Over Number sampled	Average Level Detected samples	Range of Detection all samples	MCL	Violation Y/N	MCGL	Likely Source of Contamination and Health Effects
Radionuclides							
Gross Alpha pCi/l	NA	0.306	0.159-0.452	15	N	0	Erosion of Natural deposits. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Radium 226 pCi/l	NA	0.063	ND-0.128	5	N	0	Erosion of Natural deposits. Some people that drink water containing radium 226 in excess of the MCL over many years may have an increased risk of getting cancer
Radium 228 pCi/l	NA	0.527	.298-0.850	5	N	0	Erosion of Natural deposits. . Some people that drink water containing radium 228 in excess of the MCL over many years may have an increased risk of getting cancer
Inorganic Contaminants and Lead/Copper							
Nitrate ppm	3/3	0.49	0.10-.88	10	N	10	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits. Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and if untreated may die. Symptoms include shortness of breath and blue baby syndrome.
Perchlorate ppb	0/5	Non Detect	Non Detect	2.0	N	NA	Rocket propellants. Fireworks, munitions, flares, blasting agents. Perchlorate interferes with normal function of the thyroid gland and thus has the potential to affect growth and development causing brain damage and other adverse effects, particularly in fetuses and infants. Pregnant women, the fetus, infants, and children up to the age of 12 and people with hypothyroid condition are particularly susceptible to perchlorate toxicity.
Microbiological and Turbidity							
Total coliform Disinfected water samples	756	0	0	***	N	0	Naturally Present in the environment. Bacteria that are used as an indicator that other potentially harmful bacteria may be present. ***Presence of coliform bacteria in 5% of monthly samples for systems that collect 40 or more samples/month is a violation
Stage 2 Disinfection By-Products and Disinfectants							
TTHM ppb Total Trihalomethanes	32/32	23.9	2.1-45.7	80	N	NA	By product of Chlorination Process. Some people who drink water containing trihalomethanes in excess of the MCL over many years, experience problems with their liver, kidneys or central nervous system and may have an increased risk of getting cancer. Compliance for TTHM's is determined as an "annual running average" of all samples. The detected levels shown are the highest average of (4) quarterly averaged values.
HAA5 ppb Haloacetic Acids	26/32	5.7	ND-11.4	60	N	NA	By product of Chlorination Process. Some people who drink water containing haloacetic acid in excess of the MCL over many years, experience problems with their liver, kidneys or central nervous system and may have an increased risk of getting cancer. Compliance for HAA5's is determined as an "annual running average" of all samples. The detected levels shown are the highest average of (4) quarterly averaged values.
Volatile Organic Compounds							
Chloroform ppb	2/2	1.17	.8-1.53	none	N	none	Trihalomethane, By-product of drinking water chlorination. Some people who drink water containing Chloroform, Bromodichloromethan and Chlorodibromomethane at high concentrations for many years could experience liver and kidney problems. **It is an unregulated contaminate** .
Bromodichloromethane	2/2	1.41	1.3-1.52	none	N	none	
Chlorodibromomethan	2/2	1.63	1.07– 2.19	none	N	none	
Bromoform	½	.41	ND-0.82	none	N	none	
Synthetic Organic Compounds							
Tetrachoroethylene (PCE), ppb	7/22	1.40	ND – 2.8	5.0	N	5.0	Distribution system samples and do not represent source water quality. PCE likely source is the lining adhesive within certain dead end AC pipelines.

MASHPEE WATER DISTRICT



2021 ANNUAL REPORT

"for generations unborn"

REPORT OF THE BOARD OF WATER COMMISSIONERS

To the citizens of the Mashpee Water District:

The Board of Water Commissioners is pleased to submit our annual report for the calendar year ending December 31, 2021.

During 2021, the Mashpee Water District continued to maintain and protect the quality and availability of the District's water sources as always. Our offices have remained open to the public and all of our employees continued to serve the taxpayers of Mashpee during the continued Covid-19 Pandemic. We used the CDC guidelines along with the State of Massachusetts recommendations to continue operations in person during these challenging times.

Our Annual District Meeting was held on April 27, 2021. We were able to pass all 6 articles. The omnibus budget increased 3% from the previous year and we were able to allocate free cash for savings and OPEB funding.

In May 2021, Water Commissioner Ronald Gangemi, was re-elected for another 3 year term.

We will always encourage water conservation. Our water conservation kits are always available in our office. We can provide contactless pick up if needed. However, our annual Quashnet School poster contest was cancelled due to the pandemic.

The District's staff faced continued challenges of the Covid -19 Pandemic but the year was again successful. We as a Board are extremely lucky to have staff willing and able to navigate thru these difficult times. We thank them sincerely for their tireless efforts and dedication to the District taxpayers.

As always, it is our pleasure to serve as your Board of Water Commissioners.

Respectfully,

F Thomas Fudala, Chairman
Kenneth Marsters Vice Chairman
Ronald Gangemi, Clerk

BOARD MEETINGS – FY 2021

17 November 2020	Regular Meeting
17 November 2020	Tax Classification Hearing
2 March 2021	Regular Meeting
19 March 2021	Regular Meeting
27 April 2021	Regular Meeting
15 June 2021	Regular Meeting

REPORT OF THE OPERATIONS MANAGER

To the Board of Water Commissioners and the District Residents, I wish to submit the following as the operational report of the Mashpee Water District for calendar year 2021.

The Mashpee Water District customer base expanded its customers by 142 this year. These additional customers increased the total accounts to 10,149 as of December 31.

During the year we continued our efforts to provide safe drinking water and fire protection to the citizens of Mashpee. The total number of fire hydrants expanded this year to 1,469. The District has approximately 181 miles of water main. Fire hydrant maintenance and water main flushing was a major part of our efforts and will continue to be performed now and in the future.

The District wells pumped 485 million gallons of water and we purchased 93 million gallons from the Upper Cape Regional Water Supply Cooperative and the Sandwich Water District. The total gallons used for customers and system maintenance were 578 million gallons.

In 2021 District voters approved funding to install a filter plant for the Turner Road Wells impacted by PFAS contamination. Fortunately federal funding was later approved for the filters, saving the taxpayers 8 million dollars. The US Air Force has agreed to install the filters with the assistance of US Army Corps of Engineers. This well will remain out of service until a filter has been installed to remove all of the compounds.

In December construction started on the new water tank on Back Road. The tank should be completed and in service in the spring of 2022.

Our website (www.mashpeewaterdistrict.com) has useful information so please check it out. Call the office anytime during business hours to make suggestions to improve your water system. We welcome your suggestions and offer conservation kits to all of our customers so please stop by the office and pick one up.

District personnel were faced with many challenges in 2021 due to the Covid -19 pandemic. The dedicated staff continued the same customer

service as always and made certain the water was safe and dependable during this time.

Respectfully submitted,
Andrew Marks
Operations Manager

REPORT OF THE TREASURER

To the citizens of the Mashpee Water District:

The Water District's tax rate was set at .14 cents per thousand dollars of valuation on January 1, 2021. This is a decrease from the previous January 1, 2020 of .02 cents. Property values also increased 3.86% from calendar year 2020. Also, the omnibus budget for FY22 produced an increase of 3% from the previous fiscal year.

Our investments are secure and still liquid for operational purposes. The District will continue to search out the highest rates available however, the pandemic is continuing to keep interest rates very low. Our revenues stay small and steady from investments, water accounts, misc fees, and new customers. Our collections of water charges continue to be excellent. Our shut off policy in an effort is still suspended to support the community during the Covid-19 pandemic.

Our debt in 2021 has decreased with one more annual payment. We did borrow the 2,220,000.00 million dollars we needed for the construction of our new water tank. This money was approved in 2018 and in 2021 at annual district meetings. A debt repayment schedule will be established once the fiscal year ends.

Please continue to use Invoice Cloud for your online payments. This service is a great convenience for our customers. Go to our website: www.mashpeewaterdistrict.com if you would like to take advantage of this form of payment. Fees do apply. An online platform is in the early stages but we have started the process to get our bills online for your convenience as well.

Respectfully submitted,
Leanne Gray, Treasurer/ Accountant

MASHPEE WATER DISTRICT
BALANCE SHEET

ASSETS	**JUNE 30, 2021**		
Cash:			
Revenue:	7,037,195.80		
Petty Cash:	150.00	$	7,037,345.80
Accounts Receivable:			
Personal Property Taxes:			
Prior Years:	631.28		
Fiscal Year 2021	379.78		
			1,011.06
Real Estate Taxes:			
Prior Years:	542.10		
Fiscal Year 2021	23,158.92		
			23,701.02
Water Betterments Added to Taxes			
Apportionments- Prior Years:	99.30		
Apportionments- FY 2021	3,201.21		
Committed Interest- Prior Years:	29.23		
Committed Interest- FY 2021	515.72		3,845.46
Deferred Betterments Age/Built			483.93
Tax Foreclosures/ Possessions			31,031.41
Tax Title Receivables:			26,302.75
Water Receivables: Rates & Charges	58,536.50		
Water Liens	496.00		59,032.50
Estimated Receipts			0.00
Loans Authorized:			1,100,000.00
Revenue- Fiscal Year 2022 (a)		$	2,541,516.00
TOTAL ASSETS:		$	10,824,269.93

MASHPEE WATER DISTRICT
BALANCE SHEET

LIABILITIES & RESERVES	**JUNE 30, 2021**		
Funds in Escrow:			
Payroll Withholdings Due	101.74		
Betterment Reserve Revenue			
Contractors Guarantees	31,286.69	$	31,388.43
Warrants Payable			23,208.75
Due to Trust Funds			12,483.23
Appropriations:			
Appropriation Control FY'2022 (b)			7,822,391.55
Reserves for Tax Abatements:			
Overlay- Prior Years	16,277.82		
Overlay- Fiscal Year 2021	16,406.81		32,684.63
Reserves for Uncollected Receivables:			
Water Revenue	59,032.50		
Special Assessment Revenue	3,845.46		
Tax Title Revenue	26,302.75		
Tax Foreclosure/ Poss. Revenue	31,031.41		
Deferred Bett. Rev. Age/Built	483.93		120,696.05
Fund Balances Reserved for Appropriation:			
System Development Fees	193,046.06		193,046.06
Loans Authorized & Unissued:			1,100,000.00
Petty Cash			150.00
Unreserved Fund Balance:		$	1,488,221.23
TOTAL LIABILITIES & RESERVES:			10,824,269.93

NOTES

MASHPEE WATER DISTRICT

REPORT OF THE TREASURER

CASH RECONCILIATION

GENERAL FUND

Beginning Balance- July 1, 2020	$	6,560,626.04
Available Funds Transfer ADM FY21		404,000.00
Warrants Payable 6/30/2021		23,208.75
Refunds/ Errors / Adjustments		
Cash Receipts (per schedule)		3,584,376.87
Subtotal		10,572,211.66
Cash Payments (per schedule)		-3,410,756.04
Bounced Pymts/ Chargebacks		-515.51
Warrants Payable 6/30/20		-123,594.31
Refunds/ Errors/ Adjustments		
Subtotal		-3,534,865.86
Ending Balance- June 30, 2021	$	7,037,345.80

Cash in Banks- June 30, 2021

Petty Cash/ Checking:	$	150.00
Money Market Accounts:		5,427,907.05
Investments:		1,609,288.75
Ending Balance- June 30, 2021	$	7,037,345.80

TRUST FUNDS

Money Market Accounts:	1,638,238.56	
Investments:	151,044.96	
Total Trust Fund Balance		1,789,283.52
TOTAL GENERAL & TRUST FUNDS	$	8,826,629.32

MASHPEE WATER DISTRICT

BALANCE SHEET

DEBT LEDGER	**June 30, 2021**	
Debt Issued:		
Serial Loans Issued & Outstanding 6/30/21	$730,000.00	
Debt Due:		
Water Obligation Bonds Due 2007-2021		90,000.00
Water Obligation Bonds Due 2008-2023		340,000.00
		$430,000.00

DEFERRED LEDGER		
Deferred Water Main Betterments:	$247,796.86	
Apportionments Due- 2011 - 2029		$247,796.86

TRUST FUND LEDGER		
Cash & Securities in Custody of Treasurer	$1,789,283.52	
Due from General Fund		$12,483.23
Stabilization Fund		82,520.58
Unemployment Fund		48,522.13
Betterment Reserve Fund		1,670,724.04
Total Trust Funds		$1,789,283.52

FIXED ASSETS- (Net of Depreciation)		
Land	4,943,009.00	
Buildings	6,163,648.00	
Vehicles	91,730.58	
Equipment & Fixtures	86,563.00	
Distribution System	11,569,639.00	
Construction in Progress	105,578.00	
Total Fixed Assets		$22,960,167.58

MASHPEE WATER DISTRICT
BALANCE SHEET

NOTES TO BALANCE SHEET **JUNE 30, 2021**

(a) Revenue FY'2022			
Votes @ Annual Dist. Mtg. 4/27/2021	$	3,555,016.00	
Transfers from Available funds			1,143,500.00
Raise and Appropriate			2,269,360.00
			$ 2,541,516.00
* Transfers from available funds breakdown			
1. Surplus Revenue (Free Cash)		1,013,500.00	
2. Betterment Reserve Fund		272,000.00	posted 7/1/2021
(b) Appropriation Control FY'2022			
Recorded Votes of Annual Dist. Mtg.	$	3,555,016.00	
* Transfers from available funds breakdown			
1. Future Tank Fund	$	50,000.00	
2. OPEB Fund	$	80,000.00	
3. Budget Encumbrances Carried Over	$	-	
		$130,000.00	
Special Articles Carried Forward			
1. Water main Extns. / Dead Ends	$	94,549.62	
3. Scada System Upgrade		1,568.22	
4. Future O.P.E.B. account		817,000.00	
5. Future Tank maintenance		220,621.83	
6. Well Cleaning account		448.48	
7. New Water Tank 750K		2,494,422.00	
8. New Replace Roof		462,336.00	
8. Well Site Develpmt/ Const.		176,429.40	(Non-Revenue)
Subtotal		4,267,375.55	
Total Balance Carried Forward		**$ 7,822,391.55**	**(b)**

MASHPEE WATER DISTRICT

SCHEDULE OF RECEIPTS	**FISCAL YEAR 2021**	
REVENUE		COMPLETE
Taxes: Real Estate & Personal Property		
Prior Years	30,818.99	
Fiscal Year 2021	904,252.60	935,071.59
Deferred taxes Collected		-
Tax Titles Collected:		7,019.75
Betterments:		
Prior Years	10,976.63	
Fiscal Year 2021	74,396.74	
Paid In Advance	10,921.32	
Unapportioned	0.00	96,294.69
Committed Interest:		
Prior Years	2,332.17	
Fiscal Year 2021	13,719.63	
Paid In Advance	332.75	16,384.55
Water:		
Rates & Charges	1,982,055.35	
Water Liens	7,518.99	1,989,574.34
Estimated Receipts:		
Interest on Taxes	7,402.91	
Interest on Investments	16,887.73	
Service Connections	30,285.00	
Inspection Fees, Misc. Servs	119,178.48	173,754.12
Escrow accts- Various		6,700.00
System Development Fees		16,150.00
TOTAL REVENUE RECEIPTS:		$ 3,240,949.04
Other Receipts:		
Payroll Ded. Withheld	343,427.83	
Contractors Guarantees		
Insurance Loss receipt	-	
Bond Proceeds Premium	-	
Refunded Bond Issue Proceeds	-	
Trust Fund Proceeds		$ 343,427.83
TOTAL RECEIPTS		$ 3,584,376.87

MASHPEE WATER DISTRICT

SCHEDULE OF PAYMENTS- FISCAL YEAR 2021

REFUNDS:			
Contr.Guar./ Escrow Reimbsmts.			32,885.00
System Development Refunds			-
Water, Serv. Conn. Refunds		$	3,952.00
Payments to Trust Funds			132,088.77
Payroll Ded. to Agencies			341,155.26
			510,081.03
FY'21 ARTICLE APPROPRIATIONS			
Replacement New Roof 79 Industrial Dr	500,000.00		
	0.00		
			500,000.00
Maintenance & Operations			
Salaries & Wages	838,989.37		
Employee Benefits	638,148.89		
Office Administration	75,968.47		
Debt & Interest	403,956.25		
Legal, Engineering, Consult.	79,937.64		
Field Maint. & Operations	628,905.79		
State Water Assessment	5,100.70		
Insurance	66,817.00		
Purchase water other	80,126.90		
Total Revenue Appropriations		$	2,817,951.01
Non-Revenue Appropriations			
Ext, Dead Ends	4,500.00		
New water tank 750k	35,828.00		
Tank Painting	4,732.00		
New Roof	37,664.00		
			82,724.00
TOTAL PAYMENTS			3,410,756.04

Respectfully Submitted,
Leanne Gray, Treasurer

MASHPEE WATER DISTRICT EMPLOYEES
CY21

Last Name, First Name	Title	Salary
Anderson, Jessica	Accounts Rec	$62,429.60
DiGiacomo, Adam	Field Technician	$82,432.21
Forbes, Scott	Field Technician	$93,530.04
Fredericks, Michael	Field Technician	$88,569.87
Fudala, F. Thomas	Commissioner	$5,000.00
Gangemi, Ronald	Commissioner	$5,000.00
Gorczyca, Sarah	Administrative Asst.	$68,605.30
Gray, Leanne	Treasurer/Accountant/Clerk	$89,428.29
Matton, Michael	Field Technician	$70,159.94
Marks, Andrew	Operations Manager	$124,332.30
Marsters, Kenneth	Commissioner	$5,000.00
Mills, Robert	Moderator	$200.00
Perry, James	Asst Operations Mgr	$104,772.15
Swanson, Rebecca	Senior Clerk	$37,691.51
Villa, Nicholas	Field Technician	$81,344.45
Total		$918,495.66

REPORT OF THE DISTRICT CLERK

To the Citizens of the Mashpee Water District:

The District held its Annual District Meeting on Tuesday, April 27, 2021. The Annual Election was held on Saturday, May 8, 2021 on same ballot as the Town Election.

The following certified copies indicate the results of the election and the District Meeting actions.

Respectfully submitted,

Leanne Gray
District Clerk

Mashpee Water District
Annual Election
May 8, 2021

WATER COMMISSIONER- THREE YEAR TERM- VOTE FOR ONE
(total of all precincts)

Ronald Gangemi	1286
Write-In	2
Blank	421
TOTAL:	1709

"for generations unborn"

Mashpee Water District
79 Industrial Drive
Mashpee, MA 02649
508-477-6767

ANNUAL DISTRICT MEETING
TUESDAY, APRIL 27, 2021

Barnstable, SS: Greetings:

In the name of the Commonwealth of Massachusetts, you are hereby directed to notify and summon the inhabitants of the Mashpee Water District who are qualified to vote in the elections to meet at the Mashpee Water District, 79 Industrial Drive, Mashpee, Massachusetts, **on Tuesday, April 27, 2021 at 4:00 P.M. for the following purposes:**

District Meeting was called to order at 4:00 p.m. by moderator Robert Mills with 24 voters present.

To elect by nomination from the floor: A Moderator to serve for a term of three years.
ACTION: Motion made by Yvonne Courtney to nominate Robert Mills to serve as moderator for another three year term. Motion moved by Mary Wagan and seconded by Commissioner Marsters. No other nominations from the floor. Moderator declared a unanimous vote at 4:03 p.m.

To act on the Articles contained in the following Warrant:

Article 1: To hear and act on the 2020 Report of the District Officers.

MOTION: I move the District vote to accept the 2020 Annual Report of the District Officers.
ACTION: Motion made by Commissioner Gangemi; seconded by Chairman Fudala. Moderator declared a unanimous vote at 4:04 p.m.

Article 2: To see if the District will vote to raise and appropriate or transfer from available funds the sum of **$3,555,016.00** to defray the regular expenses of the District for the Fiscal Year beginning July 1, 2021 including Office expenses; Salaries and Wages; Employees Benefits Costs; Legal, Engineering and Professional Services; Field Maintenance & Operations; Fixed Costs; and Debt & Interest Expenses, as may be deemed necessary by the Board of Water Commissioners, or take any other action relating thereto.

Explanation: This is the District's operating budget for the Fiscal Year 2022 commencing July 1, 2021 through June 30, 2022.

OPERATING EXPENSES	BUDGET FY2021	PROPOSED FY2022
Office Expenses	129,336	131,923
Salary and Wages	903,500	954,472
Employee Benefits	712,200	740,700
Legal, Engineering & Professional Services	197,000	208,000
Field Maintenance & Operations	865,609	962,921
Fixed Expenses	240,000	285,000
Debt & Interest	404,000	272,000
Total Omnibus Budget	**3,451,645**	**3,555,016**

MOTION: I move the District vote to appropriate for the Fiscal Year 2022 an operating budget totaling $3,555,016.00 as follows: To raise and appropriate $ 2,269,360.00; transfer from the Betterment Reserve Fund $272,000.00; and transfer from Unreserved Fund Balance (Free Cash) $1,013,500.00; and further that said appropriation be expended as follows: Office Expenses $131,923.00; Salaries & Wages $954,472.00; Employee Benefits $740,700.00; Legal , Professional & Engineering Expenses $208,000.00; Field Maintenance & Operations $962,921.00; Fixed Expenses $285,000.00; and Debt & Interest Expenses $272,000.00.
ACTION: Motion made by Commissioner Marsters; seconded by Chairman Fudala. Moderator declared a unanimous vote at 4:08 p.m.

Article 3: To see if the District will vote to raise and appropriate or transfer **$50,000** from available funds to the Future Tank maintenance account, or take any other action relating thereto.

Explanation: Approval of this Article will enable the District to add another $50,000 to the account established for the eventual painting and cleaning of the District Water Tanks.

MOTION: I move the District appropriate & transfer $50,000 to the Future Tank Maintenance account from Unreserved Fund Balance (free cash).
ACTION: Motion made by Commissioner Gangemi; seconded by Commissioner Martsers. Moderator declared a unanimous vote at 4:10 p.m.

Article 4: To see if the District will vote to appropriate and transfer from available funds **$80,000** to the account established for Other Post Employment Benefits (OPEB), or take any other action relating thereto.

Explanation: Approval of this Article will enable the District to add another $80,000 to the account established for the eventual funding of Other Post Employment Benefits, which is currently an unfunded liability.

MOTION: I Move the District appropriate & transfer $80,000 to the Other Post Employment Benefits account from Unreserved Fund Balance (Free Cash).
ACTION: Motion made by Commissioner Marsters; seconded by Chairman Fudala. Moderator declared a unanimous vote at 4:11 p.m.

Article 5: To see if the District will vote to raise and appropriate, borrow, or transfer from available funds the sum of $8,540,000.00; for the purchase and installation of a filtering system for the Turner

Road Pumping Station 1 & 2; and for the payment of all costs incidental and related thereto, or to take any action thereon, or relative thereunto.

Explanation: This Article will enable the District to fund a new filtering system to remove iron, manganese, and perfluorinated compounds.

MOTION: I move the District vote to appropriate $8,540,000.00 to pay costs of designing and constructing a new filtering system to remove iron, manganese, and perfluorinated compounds, and for the payment of all costs incidental and related thereto, and that to raise this appropriation, the District Treasurer with the approval of the District Commissioners, is authorized to borrow $8,540,000.00 under and pursuant to M.G.L. c. 44 ss7(1), 8(5), Chapter 136 of the Acts of 1987 as amended, or pursuant to any other enabling authority, and to issue bonds or notes of the District therefor. Any premium received upon the sale of any bonds or notes approved by this vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with M.G.L. c. 44, s20, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount.
ACTION: After discussion from the floor, motion was made by Chairman Fudala; seconded by Andrew Marks. Moderator declares a uninamous vote by 4:16 p.m.

Article 6: To see if the District will vote to raise and appropriate, borrow, or transfer from available funds an additional sum of $1,120,000 to pay costs of designing and constructing a new 750,000 gallon composite water tank, demolishing and removing the existing 3,000,000 gallon steel water tank, and for the payment of all costs incidental and related thereto, or to take any action thereon, or relative thereunto.

Explanation: This Article will enable the District to fund additional costs for a new water storage tank. On April 24, 2018 Article #5 was passed to fund 3,700,000.00 for a new water tank however, through the bidding process our estimated funding cost were not enough.

MOTION: I move the District vote to appropriate $1,120,000.00 to pay costs of designing and constructing a new water tank, and for the payment of all costs incidental and related thereto, and that to raise this appropriation, the District Treasurer with the approval of the District Commissioners, is authorized to borrow $1,120,000.00 under and pursuant to M.G.L. c. 44 ss7(1), 8(5), Chapter 136 of the Acts of 1987 as amended, or pursuant to any other enabling authority, and to issue bonds or notes of the District therefor. Any premium received upon the sale of any bonds or notes approved by this vote, less any such premium applied to the payment of the costs of issuance of such bonds or notes, may be applied to the payment of costs approved by this vote in accordance with M.G.L. c. 44, s20, thereby reducing the amount authorized to be borrowed to pay such costs by a like amount.
ACTION: After discussion from the floor, motion was made by Commissioner Marsters; seconded by Andrew Marks. Moderator declares a unanimous vote at 4:17 p.m.

Moderator adjourned the meeting at 4:19 p.m.

And you are hereby directed to serve this warrant by posting up attested copies thereof, one each at the Town Hall, Post Office, Library, Senior Center, Transfer Station, and the District Office, fourteen days at least before the meeting.

Hereof fail not and make returns of this warrant with your doings thereon to the District Clerk at the time of said meeting.

Given under our hands this 19th day of March, two thousand twenty one.

Leanne Gray, District Clerk
Bill Dalton, Constable

F. Thomas Fudala, Chairman
Kenneth Marsters, Vice-Chair
Ronald Gangemi, Clerk
WATER COMMISSIONERS

MASSACHUSETTS DEPARTMENT OF REVENUE
DIVISION OF LOCAL SERVICES
BUREAU OF ACCOUNTS

Mashpee Water Dist.
UTILITIES DISTRICT

TAX RATE RECAPITULATION

Fiscal Year 2022

I. TAX RATE SUMMARY

Ia.	Total amount to be raised (from page 2, IIe)	$ 3,699,391.54
Ib.	Total estimated receipts and other revenue sources (from page 2, IIIe)	2,781,500.00
Ic.	Tax Levy (Ia minus Ib)	$ 917,891.54
Id.	Distribution of Tax Rates and levies	

CLASS	(b) Levy percentage (from LA5)	(c) Ic above times each percent in col (b)	(d) Valuation by class (from LA-5)	(e) Tax Rates (c) / (d) x 1000	(f) Levy by class (d) x (e) / 1000
Residential	92.1781	846,094.98	6,043,537,689.00	0.14	846,095.28
Net of Exempt					
Open Space	0.0291	267.11	1,908,900.00	0.14	267.25
Commercial	5.9086	54,234.54	387,390,621.00	0.14	54,234.69
Net of Exempt					
Industrial	0.5955	5,466.04	39,040,400.00	0.14	5,465.66
SUBTOTAL	*98.7113*		*6,471,877,610.00*		*906,062.88*
Personal	1.2887	11,828.87	84,490,420.00	0.14	11,828.66
TOTAL	*100.0000*		*6,556,368,030.00*		*917,891.54*

MUST EQUAL 1C

Board of Assessors

John A. Bartos, Assessor , Mashpee , cibartos@comcast.net 508-539-1404 | 11/19/2021 10:09 AM

Comment:

Gregg P. Fraser, Assessor , Mashpee , assessing@mashpeema.gov 508-539-1400 | 11/19/2021 10:09 AM

Comment:

Paul P. Andrews, Assessor , Mashpee , pa100@aol.com 508-539-1400 | 11/19/2021 10:09 AM

Comment:

Do Not Write Below This Line --- For Department of Revenue Use Only

Reviewed By:	Katie Scopelleti
Date:	12/06/2021
Approved:	Thomas Guilfoyle
Director of Accounts:	Deborah A. Wagner

NOTE : The information was Approved on 12/6/2021

PROTECT YOUR DRINKING WATER FROM CROSS CONNECTIONSA cross connection occurs whenever a potable drinking water line is directly or indirectly connected to a piece of equipment or piping containing non-potable water. In the event of a backflow incident, through either backpressure or back-siphonage, an unprotected cross connection in your home could cause the water system within your home and also within the water distribution system in the street to become contaminated.

The outside water tap and garden hose tend to be the most common cross connection in the home. The garden hose becomes a hazard when connected to a chemical sprayer for weed killing and fertilizer applications. This cross connection can be easily protected by purchasing a small device known as a vacuum breaker. Vacuum breakers can be purchased at your local hardware store and are very inexpensive and easy to install. The vacuum breaker should be installed on all your outside faucets.

Other potential cross connections can occur on lawn irrigation systems and fire protection systems. For more information on cross connections, please feel free to contact the Sandwich Water District.

2023 HAZARDOUS WASTE COLLECTION

For information on the 2023 Hazardous Waste Collection visit, www.loveyourlocalwater.org or please contact Cape Cod Cooperative Extension @ 1-800-319-2783, website www.capecodextension.org

The improper disposal of hazardous materials can cause serious contamination to water supplies and the environment. As residents of Cape Cod we all can contribute to protecting our natural resources through proper waste disposal.

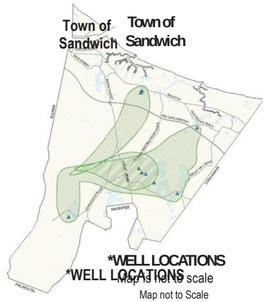
Do not pour hazardous wastes or paints down any septic systems, private or public drains, on the ground or into waterways. Safe disposal of materials through the Hazardous Waste Collection Program will help to keep to our drinking water and our community pollution-free.

2023 WATER QUALITY REPORT

This annual report on the quality of the water delivered by the Sandwich Water District contains information about the source of your water, its constituents, and associated health information. We are pleased to report the results of our 2022 water testing and inform you about your drinking water as required by the Federal Safe Drinking Water Act.

Where does my water come from?

The Sandwich Water District serves a winter population of 17,750 and throughout the summer months serves an estimated 23,000 consumers from Groundwater Wells #2 through #11 in 3 pressure zones. Wells #2, #3 and #9 are located at the Boiling Springs Well Field in East Sandwich; Well #7 is located at the Nye Pond Well Field and serve LZ1. Wells #4, #6 and #10 can be found at the Pinkham Road Well Field and serve HZ.
Wells #8 is located on Farmersville Road, Well #11 is located at the Bob's Field Well Field. Well #5 is located at the Weeks Pond Well Field and serve LZ2.
Well #1 has been off-line since 1976 and was abandoned in 1998.



For additional water supply, interconnections exist between Sandwich and the Bourne Water District, Centerville, Osterville, and Marstons Mills Water District and the Upper Cape Regional Water Supply Cooperative.

The water from each District Well and the Rte 130 Booster Station are treated with Sodium Hydroxide to control corrosion of household plumbing. Wells #2, #3, #5, #7, #8, #9 and #11 are treated with Sodium Hypochlorite (chlorine) for disinfection purposes. Well #8 is treated with sodium hexametaphosphate to sequester Iron. Wells #4, #6, #10 and Rte 130 Booster Station are treated with Zinc Orthophosphate to inhibit tetrachloroethylene leaching from vinyl lined asbestos cement pipe.

The Sandwich Water District maintains an interconnection (Rte 130 Booster Station) with the Upper Cape Regional Water Supply Cooperative (UCRWSC) PWS ID # 4261024 and during 2022 received approximately 5,178,000 gallons of water from the Cooperative. The UCRWSC consists of three groundwater supply wells located on the Massachusetts Military Reservation. A Board of Managers representing four member public water supply systems manages the Cooperative. The member public water supply systems include the Town of Falmouth, Bourne Water District, Mashpee Water District and Sandwich Water District. The Cooperative also has the capacity to supply water to the Otis Air National Guard public water system.

Wells #1, #2 and #3 are located in a forested area of the northeastern portion of the Massachusetts Military Reservation (MMR). The MMR has adopted a Groundwater Protection Plan to prohibit inappropriate activities in the Zone II areas of community public water supply wells. In addition, the creation of the Environmental Management Commission provides oversight over activities on the northern portion of the MMR. For information regarding the Groundwater Protection Plan call Elizabeth Kirkpatrick at 508-968-6696. For information regarding the Environmental Management Commission call Leonard Pinaud at 508-946-2871.

The Sandwich Water District, Public Water System Identification #4261000

The Sandwich Water District is committed to providing consumers with high quality drinking water. Analyses conducted by Ma. DEP certified laboratories are an integral part of ensuring that the water meets or surpasses the state and federal standards for quality and safety. Per the Federal safe drinking water act regulations the Water Quality Information Table below shows only the substances in drinking water that we detected during calendar year 2022 (unless otherwise noted), although the presence of these substances in the water does not necessarily indicate that the water poses a health risk, we feel that it is important that you know exactly what and how much was detected.

Terms and Abbreviations

- **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 with available treatment technology
- **SMCL –** Secondary Maximum Contaminate Level – Standards developed to protect the aesthetic qualities of drinking water and are not necessarily heath based.
- **AL -** Action Level - the concentration of a contaminant which, when exceeded, triggers treatment or other requirements which a water system must follow.
- **MRDLG –** Maximum Residential Disinfectant Level Goal – the level of a drinking water disinfectant below which there is no known or expected risk to health.
- **ND -** Not Detectable at testing limit
- **ppm –** parts per million or milligrams per liter
- **pCi/l –** piocuries per liter (a measure of radioactivity)
- **ppt –** parts per trillion or nanograms per liter
- **n/a –** not applicable
- **ppb –** parts per billion or micrograms per liter
- **ORSG –** Ma DEP Office of Research and Standards Guidelines

WATER QUALITY INFORMATION TABLE – 2022 DATA

Contaminant	MCLG	MCL	Highest Result or Average	Range of Detections	Violation	Typical Source in Drinking Water
Organics						
Tetrachloroethylene (PCE)* (ppb)	0	5	1.34	ND – 2.68	No	Leaching from vinyl-lined transite water mains
PFAS6**** (ppt)	0	20		ND	No	Discharges and emissions from industrial and manufacturing sources associated with the production or use of these PFAS, including production of moisture and oil resistant coatings or fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foam.
Disinfectants and Disinfection Byproduct	**MRDLG**					
Chlorine (Free) (ppm)	4	4	0.069	0.04 – 0.10	No	Water additive used to control microbes
Haloacetic Acids (HAA5) (ppb)	n/a	60	0.65	ND – 1.3	No	By-product of drinking water disinfection
Total Trihalomethanes (ppb)	n/a	80	3.6	ND – 7.2	No	By-product of drinking water disinfection
Radionuclides	**MCLG**					*The Massachusetts Department of Environmental Protection has reduced the monitoring requirements for radionuclide's to less often than once per year because the source is not at risk of contamination. The last sample collected was in 2022 and results are reported in this table.*
Gross Alpha (pCi/l)	n/a	15	0.07	-0.361 – 0.501	No	Erosion of natural deposits
Radium-226 (pCi/l)	n/a	5	0.216	0.0551– 0.376	No	Erosion of natural deposit
Radium 228 (pCi/l)	n/a	5	0.444	0.0594– 0.828	No	Erosion of natural deposit
Unregulated	**SMLC**	**ORSG**				*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. See Notes*
Chloroform (ppb)	n/a	70	0.425	ND – 0.85	No	By-product of chlorination, May be naturally occurring
Nickle (ppm)	n/a	0.1	0.0012	0.0012	No	The primary source of nickel in drinking-water is leaching from metals that are in contact with drinking-water, such as in pipes and fittings.
Manganese** (6/18/2020) (ppb)	50	300	49	ND – 49	No	Mineral that naturally occurs is rock and soil
Sodium *** (ppm)	n/a	20***	38.1	38.1	No	Erosion of natural deposits, road salt run-off
Inorganics	**MCLG**	**MCL**				
Nitrate (ppm)	10	10	1.92	ND – 3.83	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; erosion of natural deposits
Perchlorate (data from 2020) (ppb)	2	2	ND	ND – ND	No	By-product of Blasting additives
Lead and Copper Sampling		**Action Level**	**90th Percentile**	**Sampling sites above the AL**		
Lead (data from 2022) (ppm)	0.015	AL=0.015	0.0043	1 out of 30	No	Corrosion of household plumbing systems
Copper (data from 2022) (ppm)	1.3	AL=1.3	0.285	0 out of 30	No	Corrosion of household plumbing systems
MicrobiologicalMicrobiological		**MCL** >5% monthly	Highest # of Positives#of Samples Positives	# of Positives To Locations sampled		
Coliform (colonies present)	0	>5%	15	5 out of 34	Yes	Naturally occurring in the environment

VIOLATIN NOTE: On Feb. 8th 2022 Total Coliform was detected in a round of routine tank sample. The Water District was notified by the lab on the 9th that all 5 tank samples weren't looking good. Finding that very suspicious due to the time a year and chlorine residuals present, we immediately took another round of samples the same day. It was later confirmed that the initial samples all tested positive for Coliform. The second round however all tested negative. Due to the fact that the initial samples came back positive however, we followed standard protocol and took more samples from sources and upstream locations from the tanks, all of which came back good. *Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify any problems that were found during these assessments. During the past year, one Level 1 Assessment was required to be completed for our water system. One Level 1 Assessment was completed.* The District submitted the required RTCR Level 1 Assessment and no action was taken as this seems to have been a sampling anomaly. On April 5th and July 18th Total Coliform was detected in one of the routine distribution samples. The Water District collected repeat samples including upstream, downstream and source, all samples were non-detect. A Violation occurs when Total Coliform is detected more than once during the monthly sampling for systems that collect less than 40 samples. The Water District remained in compliance as there were no further detects of Total Coliform.

NOTES:

*PCE was detected in the distribution system at an annual average of 1.34 parts per billion, which is below the limit set by the U.S. Environmental Protection Agency (EPA). This substance leaches into the water from vinyl lined transite water pipe.

**These are unregulated contaminants. According to EPA Secondary Drinking Water Regulations (SMCL) for Manganese is 50 ppb. US EPA and MassDEP have established public health advisory levels for manganese to protect against concerns of potential neurological effects. Results compiled from Unregulated Contaminate Monitoring Rule (UCMR4)

***A note about Sodium - Sodium is not a regulated parameter, but the EPA has a guidance level of 20 ppm. High levels of salt intake may be associated with hypertension in some individuals.

**** **PFAS** - On October 2, 2020, MassDEP published its PFAS public drinking water standard of 20 nanograms per liter (ng/L) (or parts per trillion (ppt) – for the sum of the concentrations of six specific PFAS, which MassDEP abbreviates as "PFAS6." The MCL is an enforceable standard, set at a level that is safe to drink for an entire lifetime. The Sandwich Water District conducted the required PFAS sampling of all the District's public water supply wells starting in April 2021 and again in July 2021. All results from April and received in May were below the reporting limit. The results from July and received in August, were also below the reporting limit with the exception of Well 9 which indicated PFAS6 was detected at a level of 5 ppt. This detection required a confirmation sample be taken within 14 days and was completed in August. The confirmation sample results, received in September indicated PFAS6 was detected at 33.6 ppt. MassDEP Regulations require the original and confirmation sample results be averaged and is 19.3 ppt which is below the Maximum Contaminate Level. In November Wells 2&3 also tested positive for small amounts of PFAS6 (2.6 ppt). Although not a violation, as precautionary measures Sandwich Water District removed Well 9 from service in August and 2&3 in November. The affected wells were all in District low zone 1 and will remain offline as we investigate the source of the PFAS and develop a mitigation plan. Please visit our website https://www.sandwichwater.com for more details and updates.

The 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, radio-active material, and can pick up substances resulting from the presence of animals or from human activity.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contamination. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling EPA's Safe Drinking Water Hotline at 1-800-426-4791.

What is potentially in the source water?

The following contaminants may be present in source water before treatment.

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

Inorganic contaminants, such as salts and metals, 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, may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

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

Organic chemical contaminants, include 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.

Is tap water safe for everyone to drink?

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 infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. Contact EPA's Safe Drinking Water Hotline for more information about contaminants and potential health effects; and EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium and other microbial contaminants: 1-800-426-4791.

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. The Sandwich Water District 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 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.*

What is being done to ensure that my tap water is safe to drink?

In order to ensure that tap water is safe to drink, Mass DEP and US EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration and the Massachusetts Department of Public Health regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

How can I learn more about water issues?

You are welcome to attend the Board of Water Commissioners meetings held at the Sandwich Water District Office, 72 Tupper Road, Sandwich, MA. The Board meetings are usually scheduled for the second Thursday of each month at 5:00 p.m. and the Annual Water District Meeting is scheduled for the third Monday in May.

For more information on the Sandwich Water District contact:
Daniel H. Mahoney, Superintendent
Sandwich Water District
508-888-2775 or visit
www.sandwichwater.com

Sandwich Board of Water Commissioners
Richard W. Anderson, Chairman
Peter S. Thomas, Commissioner
Peter D. Howell, Commissioner

In 2022, the Sandwich Water District...
- maintained full compliance with all Federal and State regulations.
- SWD maintains a system total of approximately 146 miles of water main.
- withdrew 679.469 million gallons of water from all sources.
- withdrew the maximum daily amount of water on July 31st, 2022: 5.151 million gallons.
- The Sandwich Water District provides water to 7,286 metered service connections.
- The Sandwich Water District maintains a total of 1333 hydrants to provide fire protection service.

WATER CONSERVATION TIPS

The lack of precipitation can cause serious water supply shortages for communities on Cape Cod. Please conserve water–both indoors and outdoors-so sufficient supplies will be available to serve homes and businesses, maintain adequate water supply pressure, and provide fire protection.

- Water your lawn and garden only when they need it.
- Plant drought-resistant trees and plants.
- Water during the cool parts of the day, generally early in the morning.
- Place mulch around trees, shrubs and flowers to retain moisture.
- Don't run the hose while washing your car.
- Use a broom, not a hose, to clean driveways and sidewalks.
- Turn off the water while shaving or brushing your teeth.
- Take shorter showers.
- Use dishwashers and washing machines only for full loads.
- Keep a bottle of drinking water in the refrigerator so you don't run the tap when you want a cold drink
- Repair leaks in pipes, hoses, faucets and toilets
- Install low flow shower heads and faucet aerators

Go to the following link for additional Conservation Tips

https://www.mass.gov/guides/water-conservation-for-ma-residents

UPPER CAPE REGIONAL WATER SUPPLY COOPERATIVE

2022 Consumer Confidence Report

PWS ID # 4261024

The Upper Cape Regional Drinking Water Supply Cooperative consists of three groundwater supply wells located in Sandwich, MA on Joint Base Cape Cod (JBCC). A Board of Managers representing four-member public water supply systems manages the Cooperative. The Cooperative has the capacity to provide a supplemental supply of water to its member public water systems, which include the Town of Falmouth, the Bourne Water District, the Mashpee Water District and the Sandwich Water District. The Cooperative also supplies water to the Otis Air National Guard public water system on JBCC and the Barnstable County Jail.

Wells #1, #2 and #3 are located in a forested area of the northeastern portion of the JBCC. In July 2004, the Department of Environmental Protection completed a source water assessment (SWAP) report for the Cooperative water supply wells. A SWAP report is a planning tool to support local and state efforts to improve water supply protection by identifying land uses within water supply protection areas that may be potential sources of contamination. The report identifies potential sources of contamination including a gas station, a medical facility and a military facility, and helps focus protection efforts on appropriate Best Management Practices. A susceptibility ranking of high was assigned to the Cooperative using information that was collected during the assessment. A copy of the report is available, upon request, from the Cooperative. JBCC has adopted a Groundwater Protection Plan to prohibit inappropriate activities on JBCC property within the Zone II areas of community public water supply wells. In addition, the Environmental Management Commission provides oversight over activities on the northern portion of the JBCC. For questions regarding SWAP or other information contained within this document call Marisa Picone-Devine at 508-888-7262.

2022 WATER QUALITY DATA

Listed below are the substances detected in water samples collected during the most recent sampling period from the three (3) wells that comprise the Upper Cape Drinking Water Supply Cooperative.

Inorganic Contaminants	**Year Sampled**	**Highest Result**	**Range of Detections**	**MCL**	**MCLG**	**Violation (Y / N)**	**Possible Sources**
Barium	2020	0.002 ppm	0.002 ppm	2 ppm	2 ppm	No	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Nitrate	2022	0.74 ppm	0.74 ppm	10 ppm	10 ppm	No	Runoff from fertilizer use; Leaching form septic tanks, sewage; Erosion of natural deposits
Radioactive Contaminants	**Year Sampled**	**Highest Result**	**Range of Detections**	**MCL**	**MCLG**	**Violation (Y / N)**	**Possible Sources**
Gross Alpha	2021	-.210 (+- .331) pCi/l	-.210 (+- .331) pCi/l	15 pCi/l	0	No	Erosion of Natural Deposits
Radium 226 & 228	2021	0.377 pCi/L	0 – 0.377 pCi/l	5 pCi/l	0	No	Decay of natural and manmade deposits
Unregulated and Secondary Contaminants	**Year Sampled**	**Amount Detected**	**Range of Detections**	**SMCL**	**ORSG**	**Violation**	**Possible Sources**
Chloroform	2022	2.7 ppb	1.51 -2.7 ppb	NA	70 ppb	No	Trihalomethane: by-product of drinking water chlorination. In non-chlorinated sources, chloroform may be naturally occurring
Chloride	2022	9.3 ppm	8.4 - 9.3 ppm	250 ppm	--	NO	Runoff and leaching from natural deposits; seawater influence
Copper	2022	0.020 ppm	0.010-.020 ppm	1 ppm	--	No	Internal corrosion of household plumbing; erosion of natural deposits
Sodium	2020	5.4 ppm	5.4 ppm	--	20 ppm	No	Natural erosion, road salt
Sulfate	2022	3.7 ppm	3.1 – 3.7 ppm	250 ppm	--	No	Runoff and leaching from natural deposits; industrial wastes
Zinc	2022	0.013 ppm	0.011 – 0.013 ppm	5ppm	--	No	Corrosion of household plumbing systems; erosion of natural deposits

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.

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

Parts per million (ppm) or Milligrams per liter (mg/l): One part per million corresponds to one minute in two years.
Parts per billion (ppb) or Micrograms per liter (ug/l): One part per billion corresponds to one minute in 2,000 years.
Picocuries per liter (pCi/L): A measure of radioactivity.
***Secondary Maximum Contaminant Level (SMCL)*:** These standards are developed to protect the aesthetic qualities of drinking water and are not health based.
Unregulated Contaminants: Substances for which EPA has not established drinking water standards. The purpose of unregulated monitoring is to assist EPA in determining their occurrence in drinking water and whether future regulation is warranted.