



# Deerfield Estates

## 2022

PWS ID: #2139006

## REPORT ON WATER QUALITY

This report is a snapshot of the quality of the drinking water that we provided last year. The statistics in this report are based on testing done throughout 2021 and prior years. We hope you will find it helpful to know the sources of your water and the process by which safe drinking water is delivered to your home.

### **Where Does My Water Come From?**

Deerfield Estates is located in Hopkinton, MA. The water supply for this sub-division is provided by one bedrock (groundwater) well located on the property. This well is approximately 252 feet deep and has an approved yield of 21,600 gallons per day. The well pumps into two 15,000-gallon atmospheric storage tanks and is then pumped into the distribution system with two booster pumps.

Our water system makes every effort to provide you with safe and pure drinking water. In 2015 a Jaswell seal was installed in the well to improve iron and manganese levels in the raw water. The water quality of our system is constantly monitored by us and MassDEP to determine if any future treatment may be required.



**It's Their Legacy**

### **SHOULD SOME PEOPLE TAKE SPECIAL PRECAUTIONS?**

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 (800)426-4791.

### **Maintaining Water Quality**

Deerfield Estates continuously strives to produce the highest quality water possible to meet or surpass every water quality standard. We monitor both our sources and distribution system very closely. The standards we operate under were enacted by the U.S. Congress as the Safe Drinking Water Act in 1974 and were amended in 1986 and 1996.

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

### **Opportunities to Participate**

Please contact our water operator, WhiteWater, Inc., at (888) 377-7678 if you have any water-related concerns.

# Deerfield Estates

**The Deerfield Estates Water System is operated and maintained by WhiteWater, Inc. If you have any questions about this report, please contact WhiteWater at 1-888-377-7678.**

Additional copies of this report are available upon request and at [www.whitewateronline.com](http://www.whitewateronline.com)



## DISTRIBUTION SYSTEM WATER QUALITY

This report summarizes only those items detected during sampling - not all contaminants that are monitored.

| <b>Microbial Results</b> | <b>Highest # Positive in a Month</b> | <b>Total # Positive</b> | <b>MCL</b> | <b>MCLG</b> | <b>Violation</b> | <b>Possible Source of Contamination</b> |
|--------------------------|--------------------------------------|-------------------------|------------|-------------|------------------|---|
| Total Coliform           | 5                                    | 9                       | 1          | 0           | Yes              | Naturally present in the environment    |
| E. Coli                  | 0                                    | 0                       | *          | 0           | No               | Human and animal fecal waste            |

\*Compliance with Fecal Coliform / E. Coli MCL is determined upon additional repeat testing.

**Total 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.

| <b>Assessments</b> | <b>Number Required</b> | <b>Number completed</b> | <b>Number of corrective actions required</b> | <b>Number of corrective actions completed</b> | <b>Assessment Findings</b>   |
|--------------------|------------------------|-------------------------|--|---|--|
| Level 2 Assessment | 1                      | 1                       | 10   | 5   | Routine samples in August tested positive for total coliform which triggered a Level 1 Assessment. Before one could be performed, more samples in October and November also tested positive, which triggered a more in-depth Level 2 Assessment. This assessment determined that the softener needed to be cleaned and may have contributed to the presence of coliforms in the system. Several ongoing corrective issues are being addressed to maintain the softener as well as the UV system which triggered a Level 2 Assessment back in 2020. |

| <b>Lead &amp; Copper</b> | <b>Date(s) Collected</b> | <b>90<sup>th</sup> Percentile of Sample</b> | <b>Action Level</b> | <b>MCLG</b> | <b># of Sites sampled</b> | <b># of Sites Above Action Level</b> | <b>Exceeds Action Level?</b> | <b>Possible Source of Contamination</b> |
|--------------------------|--------------------------|---|---------------------|-------------|---------------------------|--------------------------------------|------------------------------|---|
| Lead (ppb)               | 2021                     | 10  | 15                  | 0           | 10                        | 0                                    | No                           | Corrosion of household plumbing systems |
| Copper (ppm)             |                          | 0.679                                       | 1.3                 | 1.3         |                           |                                      | No                           |   |

**Key to Tables**

- ppm – Parts per million, corresponds to one penny in \$10,000
- ppb – Parts per billion, corresponds to one penny in \$10,000,000
- ppt—Parts per trillion, corresponds to one penny in \$10 billion
- pCi/L – Picocuries per liter (a measure of radioactivity)
- ND – Not detected
- n/a - not applicable
- RAA –Running annual average
- TT—Treatment technique

**TESTING FOR LEAD**

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

**SOURCE WATER CHARACTERISTICS**

The sources of drinking water in the United States (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.
- Inorganic contaminants, such as salts and metals, which can be naturally occurring or result from urban storm water 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, urban storm water runoff, and residential uses.
- Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production. These contaminants can also come from gasoline storage, 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.

## SUMMARY OF FINISHED WATER CHARACTERISTICS

| <b>Regulated Contaminants</b> | <b>Date(s) Collected</b> | <b>Highest Detect Value</b> | <b>Range Detected</b> | <b>MCL</b> | <b>MCLG</b> | <b>Violation</b> | <b>Possible Source of Contamination</b>   |
|-------------------------------|--------------------------|-----------------------------|-----------------------|------------|-------------|------------------|---|
| <b>Inorganic Contaminants</b> |                          |                             |                       |            |             |                  |   |
| Fluoride (ppm)                | 5/19/20                  | 0.5                         | n/a                   | 4          | 4           | No               | Erosion of natural deposits; water additive which promotes strong teeth; discharge from fertilizer and aluminum factories |
| Perchlorate (ppb)             | 7/12/17                  | ND                          | n/a                   | 2          | n/a         | No               | Rocket propellants, fireworks, munitions, flares, blasting agents   |

| <b>Regulated</b>   | <b>Detect Result or Range</b> | <b>Quarterly Average</b> | <b>MCL</b> | <b>Violation</b> | <b>Possible Sources</b>   | <b>Health Effects</b>   |
|--------------------|-------------------------------|--------------------------|------------|------------------|---|---|
| <b>PFAS6 (ppt)</b> | 2.74-3.01                     | 2.86                     | 20         | 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 on fabrics and other materials. Additional sources include the use and disposal of products containing these PFAS, such as fire-fighting foams. | Some people who drink water containing these PFAS in excess of the MCL may experience certain adverse effects. These could include effects on the liver, blood, immune system, thyroid, and fetal development. These PFAS may also elevate the risk of certain cancers. |

| <b>Unregulated</b>            | <b>Date(s) Collected</b> | <b>Result or Range</b> | <b>Average</b> | <b>SMCL</b> | <b>ORSG or Health Advisory</b> | <b>Possible Source of Contamination</b>  |
|-------------------------------|--------------------------|------------------------|----------------|-------------|--------------------------------|--|
| <b>Inorganic Contaminants</b> |                          |                        |                |             |                                |  |
| Sodium (ppm)                  | 4/28/21                  | 280                    | n/a            | -           | 20                             | Natural sources; runoff from use as salt on roadways; by-product of treatment process. |
| Sulfate (ppm)                 | 2019                     | 17.6                   | n/a            | 250         | -                              | Natural sources  |

**Sodium** is a naturally-occurring common element found in soil and water. It is necessary for the normal functioning of regulating fluids in human systems. Some people, however, have difficulty regulating fluid volume as a result of several diseases, including congestive heart failure and hypertension. The guideline of 20 mg/L for sodium represents a level in water that physicians and sodium sensitive individuals should be aware of in cases where sodium exposures are being carefully controlled. For additional information, contact your health care provider, your local board of health or the New Hampshire Department of Environmental Services at (603) 271-3503.

| <b>Secondary Contaminants</b> | <b>Date(s) Collected</b> | <b>Result or Range</b> | <b>Average</b> | <b>SMCL</b> | <b>ORSG or Health Advisory</b> | <b>Possible Source of Contamination</b>                       |
|-------------------------------|--------------------------|------------------------|----------------|-------------|--------------------------------|---|
| Iron (ppb)                    | 2020                     | ND-180                 | 18             | 300         | -                              | Naturally occurring, corrosion of cast iron pipes             |
| Manganese (ppb)               | 2021                     | ND-71                  | 17.75          | 50          | 300                            | Erosion of natural deposits, leaching from plumbing materials |

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

**Manganese** is a naturally occurring mineral found in rocks, soil and groundwater and surface water. Manganese is necessary for proper nutrition and is part of a healthy diet, but can have undesirable effects on certain sensitive populations at elevated concentrations. The USEPA and MassDEP have set an aesthetics-based Secondary Maximum Contaminant Level (SMCL) for manganese of 50 ug/L (micrograms per liter) or 50 parts per billion (ppb). In addition, MassDEP's Office of Research and Standards (ORS) has set a drinking water guideline for manganese (ORSG), which closely follow the EPA public health advisory for manganese. At levels, greater than 0.05 mg/L, the water may appear brown, taste unpleasant and may leave black stains on bathroom fixtures and laundry. While manganese is part of a healthy diet, it can be harmful if consumed in large concentrations.

EPA has also set a health guideline for lifetime exposure to manganese in drinking water of 0.3 mg/L (300 ppb). EPA considered this level to be a protective limit for adults from potential neurological effects over a lifetime of exposure. For short-term 10-day exposures, EPA advises that levels in drinking water be below 1 mg/L (100 ppb). Infants and children less than 3 years of age should consume drinking water with manganese levels below 0.3 mg/L (300 ppb), or preferably as low as possible. This recommendation is based on concerns about effects to the nervous system that are more likely to occur in younger children, and because formula-fed infants/children already receive adequate manganese as an added essential nutrient in their formula. Formula fed infants or children may consume more manganese than the rest of the family if the manganese fortified formula is prepared with water that also contains manganese. In addition, young children appear to absorb more but excrete less manganese than older children. See: [http://www.epa.gov/safewater/ccl/pdfs/reg\\_determine1/support\\_ccl\\_magnese\\_dwreport.pdf](http://www.epa.gov/safewater/ccl/pdfs/reg_determine1/support_ccl_magnese_dwreport.pdf).

### SOME TERMS DEFINED

**Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers a treatment or other requirement which a water system must follow.

**Level 1 Assessment:** A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in the water system.

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

**Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.

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

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

**Total Coliform:** A bacteria that indicates other potentially harmful bacteria may be present.

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

**90<sup>th</sup> Percentile:** Out of every 10 homes, 9 were at or below this level.

## Source Water Assessment Summary

The Massachusetts Department of Environmental Protection (MassDEP) has not yet completed a Source Water Assessment Program (SWAP) Report for the water supply source serving Deerfield Estates. This report assesses the susceptibility of public water systems to contamination and makes recommendations for improvement. Once a SWAP report has been completed, we will notify you.

For further information, please visit <http://www.mass.gov/eea/agencies/massdep/water/drinking/overview-of-the-source-water-assessment-and-protection-pr.html>

Be assured that Deerfield Estates in concert with its certified operator, WhiteWater, Inc., will address any concerns as stated in the SWAP Report and welcomes your input to our planning. If you have any questions, please contact WhiteWater, Inc., at 1-888 377-7678.



## FOR YOUR INFORMATION

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

Where to go for more information ....

Massachusetts Department of Environmental Protection (MassDEP)

<http://www.mass.gov/eea/agencies/massdep/water/drinking/>



### Cross Connection Control and Backflow Protection in your water system



Typical Hose  
Bibb Vacuum  
Breaker

A Cross Connection means any actual or potential physical connection or arrangement between a pipe conveying potable water from a public water system and any non-potable water supply, piping arrangement or equipment including, but not limited to, waste pipe, soil pipe, sewer, drain, other unapproved sources. Deerfield Estates recommends the installation of Hose Bibb type vacuum breakers on all outside faucets. This will protect all residents from the potential of backflow into their homes and the potable water system from a hose connection. Studies have shown that hoses are the most commonly unprotected cross connection. MassDEP and Deerfield Estates require the physical separation between the public water supply to your home and a private well used for irrigation or other purposes, these instances will be monitored for compliance. For more information please contact Marcus Thompson, Cross Connection Coordinator, WWI at 888-377-7678.