

## 5.0 Private Well Regulations

[Regulation Adopted January 12, 1993, as Amended February 14, 2006; October 13, 2009; May 23, 2017]

### 5.1 Purpose

The purpose of these regulations is to ensure that private wells are sited, constructed, tested, and operated in a manner which will protect the public health, safety, welfare, and the environment. These regulations are also intended to protect the health and general welfare of individuals who rely upon private water supply systems, to protect the quality of the groundwater in the Town, and the aquifer from which it is derived.

### 5.2 Definitions

*Agent:* Any person designated and authorized by the Board of Health to implement and enforce these regulations. The Agent shall have all the authority of the appointing Board of Health and shall be directly responsible to the Board of Health and under its direction and control.

*Applicant:* Any person who intends to install or operate a private well.

*Aquifer:* A water bearing geologic formation, group of formations, or part of a formation that contains sufficient saturated permeable material to yield significant quantities of water to wells and springs.

*Board or Board of Health:* The Board of Health of Burlington, Massachusetts, or its authorized Agent.

*Certified Laboratory:* A laboratory certified by the Massachusetts Department of Environmental Protection for the analysis of drinking water and required water quality analytes.

*Certified Well Driller:* Any person certified with the Massachusetts Department of Environmental Protection Well Driller Program to dig or drill wells in the Commonwealth of Massachusetts.

*Contamination:* The presence of any physical, chemical, biological, or radiological substance or matter in water at a concentration and for a duration or anticipated duration which, in the opinion of the Board of Health would present a threat to the public health, using existing federal and state standards and guidelines where applicable.

*Person:* An individual, corporation, company, association, trust, or partnership.

*Private Commercial Well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter constructed or used for the sole purpose of commercial water use other than drinking or irrigation.

*Private Drinking Water Well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter constructed or used to supply water intended and/or used for human consumption, that is not subject to regulation by 310 C.M.R. §22.00 (or its successor provisions).

*Private Ground Source Heat Pump (Geothermal) Well:* Any excavation by any method for the purpose of transferring heat to or from the earth for heating and cooling purposes in which the ambient ground temperature is 90 degrees Fahrenheit or less.

*Private Irrigation Well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter constructed or used for the sole purpose of watering or irrigation. The well shall not be connected at any time to a dwelling or a building unless it has met the requirements of a private drinking water well and has been issued a drinking water well permit from the Board of Health.

*Private Monitoring Well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter constructed or used for the sole purpose of conducting groundwater analysis to determine the presence or extent of contamination.

*Private Well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter developed to supply water intended and/or used for human consumption, irrigation, commercial use, or for environmental analysis and not subject to regulation by 310 C.M.R §22.00 (or its successor provisions).

*Pumping (Aquifer) Test:* A procedure used to determine the characteristics of a well and adjacent aquifer by installing and operating a pump.

*Structure:* A combination of materials assembled at a fixed location to give support or shelter, such as a building, framework, retaining wall, fence, or the like.

### **5.3 Well Types**

**A. Private Drinking Water Wells**

The following sections of these regulations shall apply to private drinking water wells: Article III, Section 5.4 through Section 5.12.

**B. Private Irrigation Wells**

The following sections of these regulations shall apply to private irrigation wells: Article III, Section 5.4, Section 5.6, and Section 5.8 through Section 5.12.

**C. Private Commercial Wells**

The following sections of these regulations shall apply to private commercial wells: Article III, Section 5.4 and Section 5.8 through Section 5.12.

**D. Private Monitoring Wells**

The following sections of these regulations shall apply to private monitoring wells: Article III, Section 5.4 and Section 5.8 through Section 5.12.

**E. Private Ground Source Heat Pump (Geothermal) Wells**

The following sections of these regulations shall apply to private geothermal wells: Article III, Section 5.4 and Section 5.8 through Section 5.12.

### **5.4 Well Construction and Operation Permit**

The Property Owner and a Massachusetts Certified Well Driller shall obtain a permit from the Board of Health prior to the commencement of construction of a private well.

Each permit application to construct a well shall include the following:

- A. the Property Owner's name and address; and
- B. the well driller's name and proof of valid Massachusetts certification; and
- C. a plan with a specified scale showing the location of the proposed well in relation to existing or proposed above or below ground structures; and
- D. a description and location of prior and current land uses within two hundred (200) feet of the proposed well location, which represent a potential source of contamination, including but not limited to the following:
  - a. existing and proposed structures;
  - b. subsurface sewage disposal systems;
  - c. subsurface fuel storage tanks;
  - d. public ways;
  - e. utility right of ways;
  - f. any other potential sources of pollution; and
- E. proof that the owner of any property abutting the applicant's property has been notified of the applicant's intention to install a well; and,
- F. the appropriate permit fee.

Water supply lines shall be installed at least ten (10) feet from and eighteen (18) inches above any sewer line. Whenever water supply lines must cross sewer lines, both pipes shall be constructed of class 150 pressure pipe and shall be pressure tested to assure water tightness. No private well, or its associated distribution system, shall be connected to either the distribution system of a public water supply system or any type of waste distribution system.

The Board of Health may grant a permit, when, in its opinion, the construction and/or operation of a private well will not result in harm to the public health, safety, welfare, and the environment. The Board of Health may deny the permit when, in its opinion, the construction and/or operation of a private well will result in harm to the public health, safety, welfare, or environment. The Board of Health may also request additional information from the applicant before rendering a decision, including, but not limited to, analytical sampling and testing and opinion(s) from environmental professionals.

The applicant shall comply with all other applicable local, state, and federal laws, statutes and regulations. It is the responsibility of the applicant to consult the Building Department and Conservation Commission to determine if any other bylaws or regulations mandate additional requirements or conditions.

Permission for well construction shall expire one (1) year from the date of issuance unless revoked for cause, or as extended by the Board of Health as stated herein. Well construction may be extended for one (1) additional six (6) month period provided that a written request is received by the Board of Health prior to the one (1) year expiration date.

Well Construction permits are not transferable. Following well installation, a copy of the Water Well Completion Report as required by the Massachusetts Department of Environmental Protection Well Driller Program regulations (310 C.M.R §46.00) and a plan with a specified scale showing the location of the installed well in relation to existing or proposed above or below ground structures will be provided to the Board of Health.

### **5.5 Water Supply Certificate**

The issuance of a Water Supply Certificate by the Board of Health shall certify that the private well may be used as a drinking water supply. A Water Supply Certificate must be issued for the use of a private well prior to the issuance of an occupancy permit for an existing structure or prior to the issuance of a building permit for new construction which is to be served by the well. A Water Supply Certificate shall not be issued for any property where a municipal supply of water is accessible (adjacent or adjoining to) the property and permission to connect to such a supply can be obtained from the authority having jurisdiction over it.

A. The following shall be submitted to the Board of Health to obtain a Water Supply Certificate:

- a. a well construction permit; and
- b. a copy of the Water Well Completion Report as required by the Massachusetts Department of Environmental Protection Well Driller Program regulations (310 C.M.R §46.00, or their successor provisions); and
- c. a copy of the Pumping Test Report required pursuant to Article III, Section 5.8 of these regulations; and
- d. a copy of the Water Quality Report required pursuant to Article III, Section 5.7 of these regulations.

B. Upon the receipt and review of the above documents, the Board of Health shall make a final decision on the application for a Water Supply Certificate. A final decision shall be in writing and shall comprise one of the following actions:

- a. Issue a Water Supply Certificate; or
- b. Deny the applicant a Water Supply Certificate and specify the reasons for denial; or
- c. Issue a conditional Water Supply Certificate with those conditions which the Board of Health deems necessary to ensure fitness, purity and quantity of the water derived from that private well. These conditions may include, but not be limited to, requiring treatment and/or additional testing of the water.

### **5.6 Well Location and Operation Requirements**

The applicant shall identify all potential and existing sources of contamination within two hundred (200) feet of the site. When possible, the well shall be located upgradient of all potential sources of contamination and shall be as far removed from potential sources of contamination as possible. Based on existing or potential future contamination, the Board of Health reserves the right to require periodic groundwater sampling and analytical testing at any time following well installation at the expense of the applicant.

Private wells must meet the following setback requirements except as otherwise provided below:

- 10 feet from the property line; and
- 25 feet from public or private roadway;\* and
- 15 feet from right-of-way;\* and
- 50 feet from building sewer line or septic tank; and
- 100 feet from leaching field or drywell; and
- 100 feet from stable, barnyard, manure storage;\* and
- 15 feet from power line or overhead distribution line; and
- 25 feet from any surface water, including but not limited to wetlands.

\*Setback not applicable to irrigation wells

In the operation of the well, the applicant and any future owners of the applicant's property must adhere to any town-wide water restrictions on non-essential outside water use as required by the Town Board of Selectmen or any other entity with jurisdiction.

### 5.7 Water Quality Testing Requirements

After the well has been completed and disinfected, and prior to using it as a private drinking water supply, baseline water quality testing shall be conducted.

A water sample shall be collected either after purging three well volumes or following the stabilization of the pH, temperature and specific conductance in the pumped well. The water sample to be tested shall be collected at the pump discharge or from a disinfected tap in the pump discharge line. In no event shall a water treatment device be installed prior to sampling.

The water quality test, utilizing an applicable US Environmental Protection Agency approved method for drinking water analysis shall be conducted by a Massachusetts certified laboratory and shall include analysis for the parameters listed in Table 1 below. The results shall not exceed applicable Massachusetts drinking water standards for public water supplies.

**Table 1**  
**Analytical Parameters and Sampling Frequency for Drinking Water Wells**

<u>Inorganic Compounds</u>	
Antimony	Copper
<u>Volatile Organic Compounds</u>	
Arsenic	Manganese
Asbestos	Mercury
Barium	Nitrate
Beryllium	Nitrite
Cadmium	Total Nitrate & Nitrite
Chromium (total)	Perchlorate
Cyanide (as free CN)	Selenium
Fluoride	Sodium
Lead	Thallium
Benzene	Methyl Tertiary Butyl Ether (MTBE)
Carbon Tetrachloride	Monochlorobenzene

Dichloromethane	Styrene
1,2-Dichlorobenzene	Tetrachloroethylene (PCE)
1,4- Dichlorobenzene	Toluene
1,2-Dichoroethane	Trichloroethylene (TCE)
1,2-Dichloroethylene (cis)	1,1,1-Trichloroethane (1,1,1-TCA)
1,2-Dichloroethylene (trans)	1,2,4-Trichlorobenzene
1,1-Dichloroethylene	1,1,2-Trichloroethane
1,2-Dichloropropane	Vinyl Chloride
Ethylbenzene	Xylenes (total)
<b><u>Bacteria</u></b>	
Total Coliform Bacteria	
Enterococci	
<b><u>Radionuclides</u></b>	
Gross Alpha Activity	
Radon 222	
<b><u>Pesticides and PCBs</u></b>	
Analysis utilizing EPA Method 505 or 508	
<b><u>Indicator Parameters</u></b>	
Alkalinity	Nitrogen (ammonia)
Calcium	Odor
Chloride	pH
Color	Potassium
Copper	Sediment
Hardness	Sulfate
Iron	Total Dissolved Solids
Magnesium	
Manganese	

Following a receipt of the water quality test results, the applicant shall submit a Water Quality Report to the Board of Health, which includes:

- A. A copy of the certified laboratory's test results; and
- B. The name of the individual performing the sampling; and
- C. Where in the system the water was obtained.

The Board of Health reserves the right to require retesting of the above parameters, periodic testing or testing for additional parameters when, in the opinion of the Board of Health, it is necessary due to local conditions or for the protection of the public health, safety and welfare. All costs and laboratory arrangements for the water testing are the responsibility of the applicant.

The Board of Health reserves the right to sample each well in order to determine/verify analytical results. Following the initial water quality test for a new well, the Board of Health may require or recommend that the applicant have the water tested periodically. The Board of Health may choose to

require that a water quality test be conducted any time that the property on which the well is located changes ownership.

### **5.8 Additional Requirements**

The following provisions of the “*Private Well Guidelines*” issued by the Massachusetts Department of Environmental Protection, or their current successor provisions in the event such “*Private Well Guidelines*” are updated, revised or amended, are incorporated herein as requirements under these regulations: General Well Design and Construction, including general well design, well casing, well screen, grouting and sealing, pumps and pumping equipment, wellhead completion, and disinfection; Water Quantity (Pumping Test); and Decommissioning.

The “*Guidelines for Ground Source Heat Pump Wells*” issued by the Massachusetts Department of Environmental Protection, or their current successor provisions in the event such “*Guidelines for Ground Source Heat Pump Wells*” are updated, revised or amended, are incorporated herein as requirements for private ground source heat pump (geothermal) wells.

### **5.9 Decommissioning Requirements**

Abandoned wells, test holes, and boring shall be decommissioned so as to prevent the well, including the annular space outside the casing, from being a channel allowing the vertical movement of water.

The owner of a private well shall decommission the well if any of the following criteria are met:

- A. construction of the well is terminated prior to completion of the well; or
- B. the well owner notifies the Board of Health that the use of the well is to be permanently discontinued; or
- C. the well has been out of service for at least three (3) years; or
- D. the well is a potential hazard to public health or safety and the situation cannot be corrected; or
- E. the well is in such a state of disrepair that its continued use is impractical or unsafe; or
- F. the well has the potential for transmitting contaminants from the land surface into an aquifer or from one aquifer to another and the situation cannot be corrected.

The Property Owner shall ensure that all abandoned wells and test holes or borings associated with private well installation are properly plugged before work on the site is complete. Only certified well drillers may plug abandoned wells, test holes, and borings.

Within 30 days following the completion of the plugging procedure, the registered well driller who plugged the abandoned well test hole or boring must submit a decommissioning report to the Board of Health.

The following information should be included in the decommissioning report:

- A. name and address of the Property Owner; and
- B. name and address of the certified well driller who performed the plugging; and

- C. reason for abandonment; and
- D. location of the well, test hole, or boring referenced to at least two permanent structure or when possible, location coordinates determined by a registered land surveyor or registered civil engineer; and
- E. all information known about the well, test hole, or boring including, but not limited to:
  - a. depth;
  - b. diameter;
  - c. type of casing; and
- F. calculations made to determine the volume of the well, test hole, or boring; and
- G. water level before plugging; and
- H. types of plugging material used, including mix specifications; and
- I. quantity of each type of plugging material used; and
- J. description of the plugging procedure including, but not limited to, notes regarding:
  - a. removal of pump and other obstructions;
  - b. removal of screen;
  - c. perforation or removal of casing;
  - d. method(s) used to place plugging material(s); and
- K. a copy of the original certified well driller's report, when available.

### **5.10 Hearing**

Any person that has received an Order or notice issued pursuant to these regulations may request a hearing before the Board of Health. Such request shall be in writing and shall be submitted to the office of the Board of Health in writing so as to be received by the Board of Health within ten (10) days after receipt of the Order or notice. After said hearing, the Board of Health may affirm, modify or rescind said Order or notice or take any other action it deems warranted and appropriate.

### **5.11 Penalties**

Whoever violates any provision of these regulations may be subject to penalties as follows:

- A. Non-criminal disposition as provided in M.G.L. c. 40, § 21D and Article I, Section 4.0 of the Burlington General Bylaws
- B. The Board of Health may suspend or revoke any permit issued pursuant to these regulations for any violation of these regulations. Such revocation or suspension may take place after a

hearing held by the Board of Health of which the permit holder is given seven (7) days written notice.

- C. These regulations may be enforced through any other means available at law or in equity as deemed appropriate by the Board of Health, including, but not limited to, civil enforcement for injunctive relief. Whoever violates any provision of these regulations may be penalized by indictment or on complaint brought in the district court. Except as may be otherwise provided by law and as the district court may see fit to impose, the maximum penalty for each violation or offense shall be one thousand dollars (\$1,000). Each day or portion thereof shall constitute a separate offense. If more than one, each condition violated shall constitute a separate offense.

### **5.12 Variances**

Upon written application and public hearing, the Board of Health may in its discretion issue a variance to any permit holder that can demonstrate to the reasonable satisfaction of the Board of Health that a level of protection to the public health, safety, welfare, and the environment at least equivalent to that provided under these regulations can be achieved without strict application of the provision from which a variance is sought.