

**TOWN OF LINCOLN  
BOARD OF HEALTH**

***"Minimum Sanitation Standards for Private and Semi-Public Wells"***

**7.01 Purpose**

- (A) These regulations are intended to protect public health, safety, and general welfare by ensuring that wells are constructed, developed, maintained, used, and decommissioned in a manner which will protect the quality of the groundwater and the aquifer from which it is derived.

**7.02 Authority**

- (A) The regulations in this chapter are promulgated by the authority granted to the Lincoln Board of Health by Massachusetts General Laws, Chapter 40, §21 and Chapter 111, §31
- (B) Public Water Supply Wells subject to regulation under 310 CMR 22.00 are exempt from these regulations.

**7.03 Definitions**

Abandoned water well: Means a well that meets any of the following criteria: (1) construction was terminated prior to completion of the well, (2) the well owner has notified the Lincoln Board of Health that use of the well has, after extended use, been permanently discontinued, (3) the well has been out of service for at least three years, (4) the well is a potential hazard to public health or safety and the situation cannot be corrected, (5) the well is in such a state of disrepair that its continued use is impractical, or (6) 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.

Geothermal Well: Any drill hole, excavation, or opening deeper than it is wide constructed into the ground for the purpose of transferring heat as part of a ground-source heat pump system designed and installed with current Massachusetts Department of Environmental Protection guidance documents.

Irrigation 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 the purposes of agricultural, horticultural, and/or landscape irrigation or other uses not requiring potable water, and not subject to regulation by 310 CMR 22.00.

Monitoring Well: Any drill hole, excavation, or opening deeper than it is wide constructed into the ground for the purpose of monitoring or observation of subsurface conditions; not included are wells used on a temporary basis for the purpose of sampling soil vapors or groundwater if the installation tool is left in the ground less than 48 hours.

Private Water Supply 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 and/or other domestic purposes if such system has less than fifteen (15) service connections and either (1) serves less than twenty-five individuals or (2) serves an average of twenty-five (25) or more individuals for less than sixty (60) days of the year and therefore not subject to regulation by 310 CMR 22.00. The system shall include all of the sources, treatment works, and distribution lines to the point where distribution takes place within the building.

#### **7.04 Well Construction Permit**

- (A) The property owner or his/her designated representative shall obtain a permit from the Board of Health prior to the commencement of construction of a private well.
- (B) Each permit application to construct a well shall be submitted on a Lincoln Board of Health Form and, in addition, include the following:
  - (1) A plan with a specified scale, signed by a registered sanitarian, land surveyor or engineer, showing the location of the proposed well in relation to existing or proposed above or below ground structures.
    - (a) Copies of existing plans on file with the Lincoln Board of Health are acceptable at the discretion of the Agent of the Lincoln Board of Health.
  - (2) A description of visible 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 disposals systems
    - (c) Subsurface fuel storage tanks
    - (d) Public and private ways
    - (e) Utility rights-of-way
    - (f) Any other potential sources of pollution
    - (g) Wetlands and/or waterways
  - (3) A permit fee as set according to the Bylaws and Board of Health Regulations of the Town of Lincoln
  - (4) A listing of any hazardous waste sites regulated by 310 CMR 40.00 within 1000 feet of the proposed well.
    - (a) This section does not apply to monitoring well installation permit applications
  - (6) All applications for monitoring wells at sites subject to the jurisdiction of MGL Ch. 21E and/or 310 CMR 40.00 shall include the Release Tracking Number (RTN) issued to the site.

- (C) Each permit shall expire one (1) year from the date of issuance unless revoked for cause.
- (D) Well Construction Permits are not transferable.

**7.05 Well Location and Use Requirements**

- (A) Each well shall be accessible for repair, maintenance, testing, and inspection.
- (B) A private water supply well shall be completed in a water bearing formation that will produce the required quantity of water under normal operating conditions.
- (C) Wells shall be subject to the setbacks as set forth in Table 1, below.

<b>Table 1: Required Setbacks for Wells</b>				
	<b>Well Type</b>			
	<b>Private Water Supply</b>	<b>Irrigation</b>	<b>Geothermal</b>	<b>Monitoring</b>
<b>Property Line</b>	10	10	10	N/A
<b>Public or Private Way (edge of road)</b>	25	25	25	N/A
<b>100-year floodplain elevation</b>	Above	Above	Above	N/A
<b>Body of water</b>	50	50	50	N/A
<b>Wetland</b>	50	50	50	N/A
<b>Septic Tank/Pump Chamber</b>	50	50	50	N/A
<b>Soil Absorption System</b>	100	50	50	N/A
<b>Building sewer constructed of durable, corrosion-resistant material</b>	10	10	10	N/A
<b>Animal pen or Paddock</b>	100	50	50	N/A
<b>Structure with a foundation</b>	20	20	20	N/A
<b>Underground Fuel Storage Tank</b>	25	25	25	N/A

- (D) Water supply lines shall be installed at least 10 feet from any sewer line.
  - (1) 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.
- (E) The Board reserves the right to impose minimum lateral distance requirements from other potential sources of contamination not listed above. All such special well location requirements shall be listed, in writing, as a condition of the well construction permit.
- (F) No well, or its associated distribution system, shall be connected to the distribution system of a public water supply system.

#### **7.06 Water Quantity Requirements**

- (A) The applicant shall submit to the Board for review and approval a Well Completion Report.
  - (1) The report shall be on a form prescribed by the Massachusetts Department of Environmental Protection.
- (B) In order to demonstrate the capacity of the well to provide the required volume of water, a pumping test shall be conducted in accordance with the most recent version of the Massachusetts Department of Environmental Protection *Private Well guidelines*.
- (C) The pumping test may be performed at whatever rate is desired. Following the pumping test, the water level in the well must be shown to recover to within eighty-five (85) percent of the pre-pumped static water level within a twenty-four (24) hour period.
- (D) A private water supply well shall not be allowed to have a pumping rate less than 5 gallons per minute

#### **7.07 Water Quality Testing Requirements**

- (A) After a private water supply or irrigation well has been completed and disinfected, and prior to use, a water quality test shall be conducted.
- (B) A water sample shall be collected either after purging three well volumes. 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.
- (C) The initial water quality test for private water supply wells, utilizing applicable US EPA approved methods for drinking water testing shall be conducted by an EPA or Massachusetts certified laboratory and shall include analysis for the following parameters listed in Table 2, and the results shall not exceed Maximum Contaminant levels for public water supplies, as listed in 310 CMR 22.00.
- (D) Initial testing and recommended routine testing parameters for private water supply wells are listed in Table 2.
- (E) Initial testing and recommended routine testing parameters and frequencies for irrigation wells are listed in Table 3.

<b>Parameter</b>	<b>Frequency (after the initial test)</b>
Arsenic	Every 5 Years
Chloride	Every 5 Years
Copper	Every 5 Years
Fluoride	Every 10 Years
Gross Alpha Activity	Every 10 Years
Hardness	Every 5 Years
Iron	Every 5 Years
Lead	Every 5 Years
Manganese	Every 5 Years
Nitrate	Every Year
Nitrite	Every Year
pH	Every Year
Radon-222	Every 10 Years
Sodium	Every 5 Years
Total <i>coliform</i> bacteria	Every Year
Volatile Organic Compounds (EPA Method 524)	Every 10 Years

<b>Parameter</b>	<b>Frequency (after the initial test)</b>
<i>Escherichia coli</i> bacteria	Every 5 Years
Nitrate	Every 5 Years
Total <i>coliform</i> bacteria	Every 5 Years

- (F) All private water supply wells shall be tested in accordance with Table 2 within one year prior to the sale of the property served by the well.
- (G) Following a receipt of the water quality test results, the applicant shall submit a Water Quality Report to the Board which includes:
- (1) A copy of the certified laboratory's test results
  - (2) The name of the individual who performed the sampling
  - (3) Where in the system the water sample was obtained
- (H) The Board reserves the right to require retesting of the above parameters, or testing for additional parameters when, in the opinion of the Board, 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.
- (I) The Board may choose to collect the water sample or may require that the water sample be collected by the Board's agent or by an employee of the certified lab performing the analyses.

## 7.08 Well Construction Requirements

- A. Pursuant to 313 CMR 3.00, no person in the business of digging or drilling shall construct a well unless registered with the Department of Environmental Protection.
- B. Any work involving the connection of the private well to the distribution system of the residence must conform to the local plumbing code. All electrical connections between the well and the pump controls and all piping between the well and the storage and/or pressure tank in the house must be made by a pump installer or registered well driller, including the installation of the pump and appurtenance in the well or house.
- C. A physical connection is not permitted between a well as permitted under these regulations and a public water supply as regulated by 310 CMR 22.00.
- D. Geothermal wells developed as part of the ground-source heat pump system shall be developed and constructed in accordance with the most recent version of the Massachusetts Department of Environmental Protection *Guidelines for Ground Source Heat Pump Wells*.
- E. Monitoring wells shall be constructed in accordance with the most recent version of *Standard References for Monitoring Wells* available from the Massachusetts Department of Environmental Protection.

## 7.09 Well Decommissioning Requirements

- (A) Abandoned wells, test holes, and borings 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.
- (B) The owner of the private well shall decommission the well if the well meets any of the following criteria:
  - (1) Construction of the well is terminated prior to completion of the well
  - (2) The well owner notifies the Board that the use of the well is to be permanently discontinued.
  - (3) The well has been out of service for at least three years
  - (4) The well is a potential hazard to public health or safety and the situation cannot be corrected
  - (5) The well is in such a state of disrepair that its continued use is impractical
  - (6) 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
- (C) The property owner shall be responsible for ensuring that all abandoned wells and test holes or borings associated with private well installation are properly plugged.
  - (1) Only registered well drillers may plug abandoned wells, test holes, and borings.

**7.10 Severability**

- (A) Each section, paragraph, sentence, clause, phrase and any other portion of this regulation shall be construed as separate to the end that if any portion thereof shall be held invalid for any reason, then the remainder of the regulation shall remain in full force and effect.

**7.11 Effective Date**

- (A) This regulation was adopted by the Lincoln Board of Health at a public hearing on June 20, 2018 under the authority granted by MGL Ch. 111, s. 31 and MGL Ch. 44, s.

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Frederick L. Mansfield, MD  
Chairman

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