



## Board of Health

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### **ARTICLE 12**

### **RULES AND REGULATIONS FOR THE REGISTRATION AND CONSTRUCTION OF PRIVATE WATER SUPPLIES**

#### **SECTION 12.1 PURPOSE**

The Town of Needham Board of Health (hereinafter called the Board of Health) seeks to assure that private wells be developed and installed so as not to contaminate the municipal water supply system, to protect aquifers within the Town and to assure that any potable well meets the requirements of the Massachusetts Drinking Water Regulations. The Board of Health also seeks to identify the location of all irrigation wells which may draw from, or alter the flow of, areas of current or future groundwater contamination.

#### **SECTION 12.2 AUTHORITY**

These regulations are adopted under the authority of [MGL Chapter 111, section 31](#), as reasonable health regulations designed to protect and improve the health and quality of life of those who reside with the Town of Needham. These regulations shall take effect as the date of their approval as indicated below.

#### **SECTION 12.3 DEFINITIONS**

*Agent:* Any designated representative of the Board of Health authorized to execute 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 have a private well constructed by filing the appropriate application with the Board of Health.

*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 of Health:* The Board of Health of the Town of Needham, Massachusetts, or its authorized agent.

*Casing:* Impervious durable pipe placed in a boring to prevent the walls from caving and to serve as a vertical conduit for water in a well.

*Certified laboratory:* Any laboratory currently certified by the Commonwealth of Massachusetts Department of Environmental Protection for the analysis of drinking water quality.

*Geothermal well:* Any well constructed for the location, exploration, monitoring, development, or injection of geothermal resources or the natural heat of the earth, the energy which may be extracted from the natural heat in whatever form found below the surface of the earth as defined.

*Open-loop geothermal well:* A system which pipes clean ground water directly from a nearby aquifer to an indoor geothermal heat pump. Water leaving the home is expelled through a discharge well which is located a suitable distance from the first.

*Closed-loop geothermal well:* A ground source heat pump well that uses a closed-loop fluid system to prevent the discharge or escape of its fluid into the subsurface. Closed-loop heat pump wells shall not be used to produce water.

*Ground source or geothermal heat pump system:* A heating and/or cooling system that transfers heat to or from the earth in which the naturally occurring, ambient ground temperature is 90 degrees Fahrenheit or less.

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

*Private well:* Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter developed to supply water intended for irrigation purposes and/or groundwater source heat pump and not subject to regulation by [310 CMR 22.00](#).

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

*Registered well driller:* Any person registered with the Commonwealth of Massachusetts Department of Environmental Management, Office of Water Resources to dig or drill wells in the Commonwealth of Massachusetts.

*Right of way:* Any roadway or thoroughfare on which public passage is made, and any corridor of land over which facilities such as railroads, pipelines, powerlines, conduits, channels, or communication lines are located.

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

## **SECTION 12.4      WELL CONSTRUCTION PERMIT**

**12.4.1** Unless otherwise specified, all sections of this regulation apply to open-loop and closed-loop well systems.

**12.4.2** Pursuant to [310 CMR 46.00](#), no person in the business of digging or drilling shall construct a well unless

registered with the Commonwealth of Massachusetts Department of Environmental Management, Office of Water Resources.

**12.4.3** The applicant, who shall be the owner of the property where the well is located, or his or her authorized agent, shall submit a plan to the Board of Health showing the location of any private well.

**12.4.4** Each well permit application will be reviewed and approved by the following before a permit to construct any well will be issued.

- A. Needham Public Health Division
- B. Needham Department of Public Works, Water and Sewer Division
- C. Needham Building Department
- D. Engineering Division
- E. Needham Planning Board
- F. Needham Fire Department
- G. Needham Conservation Commission

**12.4.5** Along with the application, the applicant shall submit three full-size copies of a wet-stamped, signed and dated plot plan to the Board of Health clearly showing the location of the proposed well. Said plan shall be signed by a surveyor or engineer registered in the Commonwealth of Massachusetts and shall show the location of the proposed well in relation to the home, barn, or other building structures; all lot lines; structure locations, including septic systems and underground storage tanks; roadways; drains and sewer lines; wetlands; and all underground utilities, along with setback distances to the proposed well. An electronic copy of the plan shall also be submitted to the Board of Health. The plan shall be drawn on a scale of approximately one-inch equals forty feet. The plan shall also include a description of visible prior and current land uses within two-hundred 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 fuel storage tanks
- C. public ways
- D. utility rights-of-way
- E. water lines
- F. sewer lines
- G. property lines
- H. surface and subsurface drains, including drywells and water quality best management practices
- I. the location of the water line leading from the well to any connection
- J. existing utilities in the area of the well and along the path of the water line, **including** the electric and/or control cable that leads from the well.

**12.4.6** An informal plan is **NOT** acceptable for a new well.

**12.4.7** A permit fee in the amount stated on the permit application can be submitted online or in a check form made payable to the Town of Needham.

**12.4.8** There shall be a twenty-one-day review period for all permit applications.

**12.4.9** The permit shall be on site at all times that construction of the well is taking place. Each permit shall expire one year from the date of issuance unless revoked for cause. Permits may be extended for one additional six-month period provided that a written request is received by the Board within 30 days prior to the one-year expiration date

*12.4.10* Well Construction Permits are not transferable.

## **SECTION 12.5      WELL COMPLETION REPORT**

*12.5.1* Well Completion Report forms shall be submitted electronically through the MassDEP electronic filing system. Well completion reports must be submitted for all activities covered under 310 CMR 46.00 including well drilling, decommissioning, Ground Source Heat Pump wells (“geothermal”), repairs, deepening, yield enhancement, pump installation and replacement. Any driller who files a false report is subject to revocation of certification. Violators will be subject to enforcement currently up to \$25,000 per day depending on the infraction and specifics of the violation. It should be noted that performing activities under the regulations cited without being certified in Massachusetts is a violation and the violator(s) subject to enforcement action.

*12.5.2* A copy of the Well Completion Report must also be sent to the Department of Conservation and Recreation Well Drilling Program.

## **SECTION 12.6      REGISTRATION REQUIREMENT**

*12.6.1* Pursuant to 310 CMR 46.00, no person in the business of digging, driving, jetting, drilling or any other method shall construct a well unless registered with the Commonwealth of Massachusetts Department of Environmental Management, Office of Water Resources.

*12.6.2* The owner of any existing potable or irrigation well, or his or her agent, shall register the well with the Board of Health on a form provided by the Board of Health. Failure to register the potable or irrigation well with the Board of Health shall be considered a violation of this regulation.

## **SECTION 12.7      GENERAL WELL DESIGN AND CONSTRUCTION**

*12.7.1* There shall be no direct discharge of any unfiltered water byproducts produced during the well drilling into any catch basins, storm drains and/or surface water.

*12.7.2* It shall be the well driller’s responsibility to correct any damage to town owned property or ways and/or utilities caused during the well construction process.

*12.7.3* General Well Design and Construction.

All private wells shall be designed such that:

- A. the materials used for the permanent construction are durable in the specific hydrogeologic environment that occurs at the well site, and
- B. no unsealed opening will be left around the well that could conduct surface water or contaminated groundwater
- C. vertically to the intake portion of the well or transfer water from one formation to another.

*12.7.4* Permanent construction materials shall not impart toxic substances, taste, odors, or bacterial contamination to the water in the well.

*12.7.5* The space surrounding the well casing should be sealed with a watertight grouting extending from the surface of the ground to a depth of ten (10) feet.

**12.7.6** In all new well construction, all test holes and borings shall be plugged before the well driller completes work at the site.

**SECTION 12.8      PLUMBING AND CROSS CONNECTIONS**

**12.8.1** No private potable well, or its associated distribution system, shall be connected to the distribution system of the Town of Needham water supply system.

**12.8.2** No private well or its associated distribution system shall be connected to either the distribution system of a public water supply or any type of waste distribution system.

**12.8.3** Open-loop heat pump wells shall not be used to produce water.

**12.8.4** Plumbing connected to any private well used for irrigation purposes shall not enter any building served by the Needham water system. However, if there is no other possibility, and if plumbing must be installed in an existing garage or shed, then the plumbing must be available for inspection at any time.

**12.8.5** Any work involving the connection of the private well to the distribution system of the residence must conform to all applicable plumbing codes. 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.

**12.8.6** A physical connection is not permitted between a water supply which satisfies the requirements of these regulations and another water supply that does not meet the requirements of these regulations without prior approval of the Board.

**SECTION 12.9      LOCATION**

**12.9.1** Wells shall be located the following minimum distances from sources of contamination:

- |   |  |
|---|--|
| A. property lines                       | 10 feet  |
| B. public or private roadways           | 25 feet  |
| C. right of way or easements            | 25 feet  |
| D. sewer line                           | 50 feet * (10 feet from a building sewer constructed of durable corrosion resistant material with watertight joints) |
| E. septic pump or tank                  | 50 feet *  |
| F. privy                                | 100 feet*  |
| G. leaching field (cesspool) or drywell | 100 feet *   |
| H. stable, barnyard, manure storage     | 100 feet   |
| I. aboveground fuel storage             | 100 feet   |
| J. underground fuel storage             | 100 feet   |
| K. surface water, wetlands              | 100 feet **  |
| L. subsurface drains                    | 25 feet *  |

\* Setbacks required by Title 5 septic code.

\*\*Referral of well location to local Conservation Commission for approval required if proposed within 100 feet of surface water regulated under the Wetlands Protection Act.

**12.9.2** In any particular case, the Board of Health may increase the above distances when it decides that specific conditions justify such an increase.

**12.9.3** The Board of Health 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.

## **SECTION 12.10     USE AS A POTABLE WATER SUPPLY**

**12.10.1** No individual well of any type intended for use as a potable water supply shall be installed where a municipal supply of water is accessible abutting the property and where permission to connect to such a supply can be obtained from the authority having jurisdiction over it.

**12.10.2** Any private well used as a source of potable water shall meet or exceed the chemical and bacteriological requirements of the Massachusetts Drinking Water Regulations (310 CMR 22.00) Sections 22.05 through 22.08 inclusive. The water shall be analyzed by a state certified laboratory at the owner's expense, and a copy of the results submitted to the Board of Health at least seven days prior to the use of the supply. Thereafter, it is recommended that the well be tested annually for coliform bacteria.

**12.10.3** The well owner must submit a copy of the laboratory test results to the Board of Health any time a private water supply is tested. The submitted copy should indicate: 1) Name, address, and phone number or other contact information for the individual who performed the sampling; 2) where in the system the sample was obtained (e.g., at the wellhead, prior to treatment, or at the tap) and, if sampled at the tap, whether or not the system was flushed prior to sampling; 3) date and time of sample collection; 4) date and time sample was received by the laboratory; and 5) a copy of the laboratory's test results, which includes the Mass DEP laboratory certificate number and the EPA methods used in the analysis.

**12.10.4** Water drawn from a private well shall not be used as swimming pool water unless it meets the requirements of Section 12.6.2 above.

**12.10.4** Water quality may be required to conform to standards of the Commonwealth of Massachusetts for public water supplies.

**12.10.5** The Board of Health reserves the right to require retesting, 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 arrangements for the laboratory water testing are the responsibility of the applicant.

**12.10.7** Requirements of 310 CMR 46.00 state, in part, that within 30 days after completion of any well (productive or nonproductive), or after plugging of an abandoned well, a certified well driller shall submit to the Drinking Water Program, a Well Completion Report.

## **SECTION 12.11     IRRIGATION WELLS**

**12.11.1** Irrigation wells are for the sole purpose of irrigation and shall not be deemed or used as a potable supply for human consumption. Irrigation wells shall not be connected to a dwelling. There shall be no cross

connection between the irrigation well and municipal or domestic supply.

**12.11.2** Irrigation wells must be posted with a permanent, legible sign at the pump outlet, any tap, spigot, or other faucet device. The sign must be constructed of a sturdy weather resistant material, either plastic or non-corrosive metal. The sign must be at least 10 inches by 10 inches, with legible writing, and must state, "THIS WELL IS PERMITTED FOR IRRIGATION ONLY, NOT FOR HUMAN CONSUMPTION." The sign must be on a sturdy chain and hung directly on the well head.

**12.11.3** Once the irrigation well is installed, it must be inspected by a representative of the Needham Water and Sewer Division. The licensed plumber who connected the well to the irrigation system must not remove the irrigation meter, if applicable, before the final inspection. The Water and Sewer Division must receive a signed and dated letter on letterhead from the plumber or individual at the irrigation company that hooked up the well, stating that the work is complete. The letter must confirm that no cross-connections exist between the Town municipal water system and the irrigation well. The letter must also state whether any backflow preventers were installed. (See 310.CMR.22.00 §22)

**12.11.4** No private irrigation well shall be used for its intended purpose until the Public Health Division receives a copy of the final inspection sign-off approval sheet from the Water and Sewer Division, along with a copy of the Well Completion Report. Once those documents are uploaded to the Town's online permit system, the Public Health Division will issue to the owner a final approval for the well to open for use.

**12.11.5** If the property has an existing irrigation system fed by Town water, that existing system shall be capped where it exits the house for easy verification by the Water and Sewer Department when an inspector conducts the pre-operation inspections of the new well.

## **SECTION 12.12                      GEOTHERMAL WELLS**

**12.12.1** Geothermal wells are for the sole purpose of generating thermal energy and shall not be deemed or used as a potable supply for human consumption. Any ground source or geothermal heat pump system that is used to provide, or pre-heat, the potable hot water supply shall have a testable reduced pressure zone (RPZ) backflow prevention device installed on or before the cold-water feed leading to the potable water heater and the water feed leading to any additional hot water pre-heaters that are part of the ground source or geothermal heat pump system. There shall be no cross connection between the geothermal ~~open-loop~~ well and the domestic municipal water supply.

**12.12.2** Geothermal wells must meet all the Massachusetts Department of Environmental Protection (DEP) requirements listed in [Guidelines for Ground Source Heat Pump Wells](#):

- A. A testable RPZ backflow prevention device must be installed on or before the cold-water feed leading to the open-loop geothermal system.
- B. There shall be no cross-connection between the geothermal well and the municipal water supply. The Water and Sewer Division must receive a signed and dated letter on letterhead from the plumber, or individual at the company who hooked up the well, stating that the work is complete. The letter must confirm that no cross-connections exist between the Town municipal water system and the well. The letter must also state whether any backflow preventers were installed.
- C. Geothermal wells shall be sited at least 10 feet from surface water bodies, potable water, and sewer lines.
- D. Geothermal wells shall be located at least 50 feet from private potable water supply wells.

- E. Geothermal wells shall be located at least 25 feet from potential sources of contamination including, but not limited to septic tanks and field, lagoons, livestock pens, and oil or hazardous materials storage tanks.
- F. See Massachusetts Department of Environmental Protection (DEP) requirements for system bleeds in open-loop wells ([Guidelines for Ground Source Heat Pump Wells](#)).
- G. See DEP requirements for testing open-loop well water ([Guidelines for Ground Source Heat Pump Wells](#)).
- H. Discharge water from the heat pump must be analyzed per DEP Guidelines.
- I. Any ground source heat pump well system with flows in excess of 15,000 gallons per day must be permitted by the DEP Groundwater Discharge Program (per [314 CMR 5.05](#)).
- J. The well design plan must be submitted for review to the following departments in Needham:
  - i. Needham Public Health Division
  - ii. Needham Building Department
  - iii. Engineering Department
  - iv. Water and Sewer Division
  - v. Planning Department
  - vi. Fire Department
  - vii. Conservation Commission.
- K. All departments will send comments to the Board of Health.
- L. Once the contractor has built the geothermal well, they must submit a well design as-built plan and the water testing results to the Public Health Division. The contractor must notify the Water and Sewer Division and the Town Building Commissioner of completion so both Water and Sewer Division and Building Department can conduct a final inspection.

**12.12.3** No ground source heat pump well shall be used for its intended purpose until the Public Health Division receives a copy of the final inspection sign-off approval sheets from the Water and Sewer Division and the Building Department along with a copy of the Well Completion Report. Once those documents are uploaded to the Town's online permit system, the Public Health Division will issue to the owner a final approval for the well to open for use.

## **SECTION 12.13      ABANDONMENT, or DECOMMISSIONING OF WELLS**

**12.13.1** A well which has not been used for two consecutive calendar years shall be considered abandoned. The owner of record of such well shall notify the Board of Health in writing that the well is abandoned and shall have a registered well driller seal the well with materials which are approved by and in a manner satisfactory to the Board of Health.

**12.13.2** Abandoned wells, test holes, and borings shall be decommissioned to prevent the well from being a channel allowing the vertical movement of water.

**12.13.3** Requirements of 310 CMR 46.00 state, in part, that within 30 days after completion of any well (productive or nonproductive), or after plugging of an abandoned well, a certified well driller shall submit to the Drinking Water Program, a Well Completion Report.

**12.13.4** In the case of new well construction, all test holes and borings shall be plugged before the well driller completes work at the site.

**12.13.5** The owner of a private well shall decommission the well if the well meets any of the following criteria:

- A. The construction of the well is terminated prior to completion of the well,
- B. The well owner notifies the Board of Health that the use of the well is to be permanently discontinued,



- C. The well has been out of service for at least two years,
- D. The well is a potential hazard to public health or safety and situation cannot be corrected,
- E. The well is in such a state of disrepair that its continued use is impractical, and
- 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.

*12.13.6* Decommissioning must follow [Department of Environmental Protection guidelines](#);

## **SECTION 12.14      ENFORCEMENT**

*12.14.1* The Board of Health shall investigate violations of these regulations and may take such actions as the Board of Health deems necessary for the protection of the public health and the enforcement of these regulations.

*12.14.2* If any investigation reveals a violation of these regulations, the Board of Health shall order the private well owner to comply with the violated provisions. These orders shall be in writing and served in the following manner:

- A. Personally, by any person authorized to serve civil process, or
- B. By any person authorized to serve civic process by leaving a copy of the order at the well owner's last and usual place of abode, or
- C. By sending the well owner a copy of the order by registered or certified mail, return receipt requested, if the well owner is within the Commonwealth, or
- D. If the well owners last and usual place of abode is unknown or outside the Commonwealth, by posting a copy of the order in a conspicuous place on or about the premises and by advertising it for at least three out of the five consecutive days in one or more newspapers of general circulation within the Town of Needham.

## **SECTION 12.15      HEARING**

*12.15.1* The private well owner to whom any order has been served may request a hearing before the Board of Health by filing with the Board within 7 days after the day the order was served, a written petition requesting a hearing on the matter. Upon receipt of such petition the Board of Health shall set a time and place for such hearing and shall inform the well owner thereof in writing. The hearing shall be commenced not later than 30 days after the day on which the order was served. The Board of Health, upon application of the well owner, may postpone the date of hearing for a reasonable time beyond such 30-day period if in the judgement of the Board the well owner has submitted a good and sufficient reason for such postponement.

*12.15.2* The well owner shall be given an opportunity to be heard at the hearing and to show why the order should be modified or withdrawn.

*12.15.3* After the hearing, the Board of Health shall sustain, modify, or withdraw the order and shall inform the well owner in writing of its decision. If the Board sustains or modifies the original order, it shall be carried out within the time period allotted in the original order or in the modification.

*12.15.4* Every notice, order, or other record prepared by the Board of Health in connection with the hearing shall be entered as a matter of public record in the office of the Needham Town Clerk, or in the office of the Board of Health.

**SECTION 12.16     PENALTY**

*12.16.1* The penalty for violation of any provision of these regulations shall be a fine of not more than five hundred dollars (\$500). Each day's failure to comply with an order from the Board of Health shall constitute a separate violation of these regulations.

*12.16.2* Violations of this regulation and penalties listed in Section 8.1 may be subject to non-criminal disposition, [M.G.L. Chapter 40, Section 21D](#), and [Town of Needham General Bylaws](#), July 1996 Compilation, Article 9, Sections 9.1 and 9.2, and as amended.

**SECTION 12.17     VARIANCES**

*12.17.1* Variances to these regulations may be granted by the Board of Health, if in their opinion strict compliance with these regulations would do manifest injustice and the applicant proves that the same degree of protection as required under these regulations can be achieved with the variance.

*12.17.2* All requests for variances shall be in writing.

*12.17.3* Written notice of the decision of the Board of Health shall be given within ten working days of the hearing.

**SECTION 12.18     TESTING**

*12.18.1* The Board of Health may require that testing of irrigation wells for fecal and total coliform and heavy metals be conducted at the landowner's expense after the well is approved and installed and at times the Board of Health feels a health hazard exists or the property on which the well is located changes ownership.

*12.18.2* The Board of Health reserves the right to require testing, or retesting, 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.

**SECTION 12.19     SEVERABILITY**

*12.19.1* Should any provision of these regulations be ruled invalid by a competent authority, the remaining provisions shall be considered severable and remain in full force and effect.

**SECTION 12.20     DISCLAIMER**

*12.20.1* The issuance of a well permit shall not be construed as a representation by the Board of Health or its agents that the water system will function satisfactorily, nor that the water supply will be of sufficient quality or quantity for its intended use.

## **SECTION 12.21     OTHER PERMITS**

*12.21.1* Applicants for well permits may be required to obtain plumbing and/or building permits from the Town of Needham Building Department.

## **SECTION 12.22     EFFECTIVE DATE**

*12.22.1* These regulations are formally adopted by the Needham Board of Health on September 23, 2021 and shall take effect on October 15, 2021. Public hearings and open meetings regarding this regulation were conducted on June 29, 2021 and September 23, 2021. A summary explanation of the changes to this regulation was published in the Needham Times on September 30, 2021 and October 7, 2021.

## **SECTION 12.23     REFERENCES**

*12.23.1* The following Massachusetts laws and regulations have been cited in this document.

- A. Massachusetts General Law regarding local health departments' authority to impose regulations (MGL Chapter 111, § 31).
- B. Code of Massachusetts Regulations regarding water ([310 CMR 22.00](#)),
- C. Code of Massachusetts Regulations regarding certification of well drillers and filing of well completion reports ([310 CMR 46.00](#))
- D. [Department of Environmental Protection Guidelines for Ground Source Heat Pump Wells](#)
- E. Code of Massachusetts Regulations regarding ground water discharge permit ([314 CMR 5](#))
- F. Massachusetts General Law regarding non-criminal disposition of regulation violation ([M.G.L. Chapter 40, § 21D](#))
- G. [Town of Needham General Bylaws](#)