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Health Agent

**TOWN OF BOURNE
BOARD OF HEALTH
24 Perry Avenue
Buzzards Bay, MA 02532**



BOURNE BOARD OF HEALTH --- WELL REGULATIONS

Pursuant to Chapter 111, Section 31 of the Massachusetts General Laws, the Bourne Board of Health, at its regular meeting on September 24, 2003, voted to amend the well regulation originally adopted on February 23, 2000, as follows (** fee for well construction permit was increased to \$50.00 by vote of the Board on September 28, 2011):

1.0 Purpose and Authority

These regulations are intended to protect the public health and general welfare by ensuring that private wells are constructed in a manner which will protect the quality of the groundwater derived from private wells. These regulations are promulgated under Massachusetts General Laws, Chapter 111, Section 31 and supersede all previous regulations adopted by the Board of Health relative to construction of private well.

2.0 Definitions

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

Applicant: Any person who intends to have a private well constructed.

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.

Agricultural land: Refers to agricultural and horticultural use land as defined in Massachusetts General Laws, Chapter 61A, as follows:

Land shall be deemed to be in agricultural use when primarily and directly used in raising animals, including, but not limited to, dairy cattle, beef cattle, poultry, sheep, swine, horses, ponies, mules, goats, bees and fur-bearing animals, for the purpose of selling such animals or a product derived from such animals in the regular course of business; or when primarily and directly used in a related manner which is incidental thereto and represents a customary and necessary use in raising such animals and preparing them or the products derived therefrom for market.

Land shall be deemed to be in horticultural use when primarily and directly used in raising fruits, vegetables, berries, nuts and other foods for human consumption, feed for animals, tobacco, flowers, sod, trees, nursery or greenhouse products, and ornamental plants and shrubs for the purpose of selling such products in the regular course of business; or when primarily and directly used in raising forest products under a program certified by the state forester to be a planned program to improve the quantity and quality of a continuous crop for the purpose of

selling such products in the regular course of business; or when primarily and directly used in a related manner which is incidental thereto and represents a customary and necessary use in raising such products and preparing them for market.

Bentonite Grout: A mixture of bentonite (API Standard 13A) and water in a ratio of not less than one pound of bentonite per gallon of water.

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 Department of Environmental Protection for drinking water analysis.

Irrigation Well: Well used for the sole purpose of watering or irrigation. These shall not be connected at any point in time to a dwelling or a building unless they meet the requirements of a Private Drinking Water Well and have the Board's written approval.

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

Potable Water Supply: A water supply of sufficient quantity and pressure to meet the needs of the occupants of the dwelling, lot or building, connected with a public water supply or with any other source that the Board of agent has determined, by requiring the water to be tested, does not endanger the health of any potential user and is fit for human consumption.

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 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 Department of Environmental Management/Office of Water Resources to dig or drill wells in the Commonwealth of Massachusetts.

Static Water Level: The level of water in a well under non-pumping conditions.

3.0 WELL CONSTRUCTION PERMIT

The property owner or his designated representative 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:

- 1) the property owner's name and address, and mailing address, if different.
- 2) the well driller's name and proof of valid state registration
- 3) a plan with a specified scale, signed by a registered surveyor or engineer, showing the location of the proposed well in relation to existing structures, with setbacks to any existing leaching facilities, septic tanks, cesspools. Said plan is also to include lot lines, roadways, underground storage tanks, surface and subsurface drains, landfills within 400 feet, and any agricultural use land which may contain the storage of animal waste.

4) a permit fee of \$50.00**.

Each permit shall expire one year from the date of issuance unless revoked. Well construction permits are not transferable.

4.0 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 the issuance of an occupancy permit for any new structure, or for the continued occupancy of an existing structure when a replacement well is installed.

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

- 1) a well construction permit
- 2) a copy of the Water Well Completion Report, as required by the DEM Office of Water Resources (313 CMR 3.00)
- 3) a copy of the Pumping Test Report required pursuant to Section 6 of these regulations
- 4) a copy of the Water Quality Report required pursuant to Section 7 of these regulations.

5.0 WELL LOCATION AND SETBACK REQUIREMENTS

In establishing the location of a new well, the design engineer and/or well drill shall identify in writing on the plan as known sources of potential contamination (e.g. agricultural fields, animal feed lots, active or closed landfills, any establishments handling hazardous materials within 400 feet of the proposed well.

The following minimum lateral distances from potential contamination sources shall apply:

<u>Potential Source of Contamination</u>	<u>Minimum Lateral Distance(feet)</u>
leaching facility, cesspool	100
septic tank	50
sewer line	50
property line	25
public or private way, common drive	25
active or closed landfill	400
hazardous waste spill site	400
underground storage tank(outside dwelling)	200
stable/ manure storage	100
storm drains, leaching catch basins	50
dwelling unit	25

2) No well will be allowed to be constructed, for human consumption or irrigation, if its placement is known to be over a know plume of contamination or in the direct path of an advancing plume of contamination.

3) No well, private or public, will be allowed to be constructed, for human consumption, if its placement is hydraulically down-gradient of the Bourne Integrated Solid Waste Management Facility consisting of approximately 103 acres located at 201 MacArthur Boulevard, Bourne, as delineated on the Town of Bourne Assessor's maps as map 28, parcel 13 and map 32, parcel 9. Said down-gradient area shall be delineated by the particle tracking maps created by the United States Geological Survey (USGS) on file with the Board of Health office.

4) The Board of Health reserves the right to impose minimum lateral distance requirements from other potential sources of contamination not listed above. The Board of Health may grant a variance to the minimum lateral distance requirements. See Section 11 on Variances.

6. WATER QUANTITY REQUIREMENTS

The applicant shall submit to the Board for review and approval a Pumping Test Report. The Pumping Test Report shall include the name and address of the well owner, well location referenced to at least two permanent structures or landmarks, date the pumping test was performed, depth at which the pump was set for the test, location for the discharge line, static water level immediately before pumping commenced, discharge rate and, if applicable, the time the discharge rate changed, pumping water levels and respective times after pumping commenced, maximum drawdown during the test, duration of the test, including both the pumping time and the recovery time during which measurements were taken, recovery water levels and respective times after cessation of pumping, and reference point for all measurements. In order to demonstrate the capacity of the well to provide the Required Volume of water, a pumping test shall be conducted in the following manner:

1) The volume of water necessary to support the household's daily need shall be determined using the following equation: $(\text{number of bedrooms plus one bedroom}) \times (110 \text{ gallons per bedroom}) \times (\text{a safety factor of } 2) = \text{number of gallons needed daily}$.

2) The storage capacity of the well shall be determined using the measured static water level and the depth and radius of the drillhole or casing.

3) The Required Volume shall be calculated by adding the volumes of water in (1) and (2) above. It is this volume of water that must be pumped from the well within a 24 hour period. 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 prepumped static water level within a twenty-four (24) hour period.

7.0 WATER QUALITY TESTING REQUIREMENTS

After the well has been completed and disinfected, and prior to using it as a drinking water supply, a water quality test 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 EPA approved method for drinking water testing shall be conducted by an EPA or Massachusetts certified laboratory and shall include analysis for the following parameters and the results shall not exceed Massachusetts drinking water standards for public water supplies:

Ammonia	Manganese
Chlorine	Nitrate
Coliform Bacteria	Nitrite
Color	Odor
Conductivity	pH
Copper	Potassium
Hardness	Sodium
Iron	Sulfate
Lead	Total Dissolved Solids
Magnesium	Zinc

A copy of the certified laboratory's test results must be submitted to the Board of Health. The report should include the name of the individual who performed the sampling and where in the system the sample was obtained.

The Board of Health 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.

The Board recommends that testing for coliform, nitrites, nitrates, and lead be conducted annually and that testing for all other compounds be done every ten years or sooner if there are compelling reasons.

8. WELL CONSTRUCTION REQUIREMENTS

Pursuant to 313 CMR 3.0, no person in the business of digging or drilling shall construct a well unless registered with the Department of Environmental Management/Office of Water Resources.

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.

All private water supply wells shall be designed such that the materials used for the permanent construction are durable in the specific hydrogeologic environment that occurs at the well site. No unsealed opening will be left around the well that could conduct surface water or contaminated groundwater vertically to the intake portion of the well or transfer water from one formation to another. During any time that the well is unattended, the contractor shall secure the well in a way as to prevent either tampering with the well or the introduction of foreign material into the well.

All water used for drilling, well development, or to mix a drilling fluid shall be obtained from a source which will not result in contamination of the well or the water bearing zones penetrated by the well. All drilling fluids shall be non-toxic.

The construction of injection wells for liquid waste disposal shall be prohibited.

9. DISINFECTION

All private wells shall be disinfected following construction, rehabilitation, and well or pump repair before the well is placed in service. The well shall be pumped to waste until the water is clear as possible. Thereafter, the well and the pumping equipment shall be disinfected with a solution containing at least 50 parts per million of chlorine. The well shall remain in contact with the chlorine solution for a minimum of 24 hours (DEP reg stated two hours) before the well is pumped to waste and the water is found to be free of chlorine.

10. DECOMMISSIONING REQUIREMENTS

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. A Certificate of Destruction shall be issued and kept on file by the Board of Health.

Abandoned wells, test holes, or borings shall be either sealed with non-hazardous, impervious materials which shall be permanently in place with all exposed casing materials, pumping equipment, and distribution lines removed with the excavation returned to the existing grade of the surrounding land or sealed with a welded cap so as to prevent surface water or contaminants from entering the well.

The following information shall be submitted with each well destruction application, prior to issuance of a well destruction permit:

The location of the well to be destroyed shown on a plot plan, the design and construction of the well to be destroyed, and a written statement from the property owner that the well is abandoned.

Within 30 days after the destruction of any well, the well driller shall submit to the Board of Health a report containing the following information:

The date of destruction of the well, the name and address of the owner of the well, the address of the property served, the method of sealing and materials used, and the person/persons sealing the well.

The well driller shall sign this report and this report will constitute a statement of compliance with all requirements of these regulations. This signed report will satisfy the requirements of the Certificate of Destruction.

11. VARIANCES

The Board may grant a variance to the application of these regulations with respect to any particular case when, in its opinion, the enforcement thereof would do manifest injustice, and the applicant has proven that the same degree of public health and environmental protection required under these regulations can be achieved without strict application of a particular provision.

Variance requests shall be in writing to the Board and shall include all the information/reasons and proposed measures necessary to assure the protection of the public health and environment. Notice of the hearing shall be given by the applicant at least 10 days prior to the hearing date by certified mail to all abutters of the property upon which the private well is to be located. The variance request will appear on the agenda of the next regularly scheduled meeting of the Board. Any grant or denial of a variance shall be in writing and shall contain a brief statement of the variance sought and the reasons thereof.

12. PENALTIES

Any person who violates any provision of these regulations, or who fails to comply with any Order by the Board, for which a penalty is not otherwise provided in any of the General Laws shall be subject to a fine of not less than \$25.00 nor more than \$250.00. Each day's failure to comply with an Order shall constitute a separate violation.

13. SEVERABILITY

If any provision of this regulation is declared invalid by a court of competent jurisdiction, such invalidity shall not affect any remaining provisions of this regulation. Any part of these regulations subsequently invalidated by a new state law or modification of an existing state law shall automatically be brought into conformity with the new or amended law and shall be deemed to be effective immediately.

14. DISCLAIMER

The issuance of a well permit shall not be construed as a guarantee by the Board of 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.

Bourne Board of Health,

Steven A. MacNally, Chairman
Michael S. Giancola, Vice-Chairman
Bob Collett, Secretary
Joseph Gordon
Galon Barlow, Jr.

Effective date: April 13, 2000

Amended date: September 24, 2003

Amended by,

Steven A. MacNally, Chairman
Joseph Gordon, Vice-Chairman
Kathleen Peterson, Secretary
Donald Uitti