

Town of Weymouth Health Department

Weymouth Health Department
75 Middle Street
Weymouth, MA 02189



Tel. (781) 340-5008
Fax. (781) 682-6112
www.weymouth.ma.us/health

Regulation #30 **Governing Water Wells in Weymouth**

Contents

1.0	PURPOSE	2
2.0	AUTHORITY	2
3.0	DEFINITIONS	2
4.0	WELL CONSTRUCTION PERMIT AND EXEMPTIONS	5
5.0	POTABLE, GEOTHERMAL, INDUSTRIAL, OR IRRIGATION WELL.....	6
	CERTIFICATE	6
6.0	WELL SITING.....	7
7.0	WATER QUANTITY and PUMPING TEST.....	8
8.0	POTABLE WELL QUALITY TESTING	9
9.0	NON-POTABLE WELL QUALITY TESTING	11
10.0	WELL CONSTRUCTION	11
11.0	WELL CASING	13
12.0	WELL SCREEN	13
13.0	GROUTING and SEALING	14
14.0	PUMPS and PUMP EQUIPMENT	14
15.0	WELLHEAD COMPLETION	14
16.0	DISINFECTION	15
17.0	DECOMMISSIONING REQUIREMENTS	15
18.0	WELL USE RESTRICTIONS.....	16
19.0	RIGHT OF ENTRY	16

20.0	GENERAL ENFORCEMENT	16
20.1	NON-EMERGENCY ORDERS to SHOW CAUSE	16
20.2	EMERGENCY SUSPENSION and ORDERS	17
21.0	FINES for VIOLATIONS of ORDERS and SUSPENSIONS	18
22.0	SEVERABILITY	18
23.0	DISCLAIMER	18
24.0	EXISTING WELLS	18
25.0	EFFECTIVE DATE	18

1.0 PURPOSE

These regulations are intended to protect the public health and general welfare of the residents of the Town of Weymouth by ensuring that private wells producing water for human consumption, irrigation purposes, geothermal and industrial purposes are constructed in a manner which will protect the groundwater resources and the quality of water derived from these private wells.

2.0 AUTHORITY

These regulations are adopted by the Weymouth Board of Health, pursuant to its authority under Massachusetts General Laws, Chapter 111, section 31.

3.0 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 local Health Department 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.

Agent: Any person designated and authorized by the Department to execute these regulations.

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

Aquifer: means a 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.

ASTM means American Society for Testing and Materials.

Backflow: means the flow of water or other liquids, mixtures or substances into the distribution pipes of a potable water supply from any source other than the intended source.

Casing: means an 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 Massachusetts Department of Environmental Protection to conduct water quality testing.

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

CMR: means Code of Massachusetts Regulations

Contaminant: means any physical, chemical, biological, or radiological substance or matter in water.

Contamination: means 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 regulating agency, would present a threat to the public health, using existing federal and state standards and guidelines where applicable.

Cross connection: means any actual or potential connection between a distribution pipe of potable water from a public water system and any waste pipe, soil pipe, sewer, drain, or other unapproved source. Without limiting the generality of the foregoing, the term “cross connection” shall also include any by-pass arrangements, jumper connections, removal sections, swivel or changeover connection and other temporary or permanent connection through which backflow can or may occur.

Department: means the Massachusetts Department of Environmental Protection.

Department’s Designee or “Designee”: shall mean any water supplier to whom, upon written request of said water supplier, the Department delegates any portion of its authority to act under 310 CMR 22.22

Domestic water supply: means "private water supply."

Drawdown: means the difference between the static and pumping water levels.

Groundwater: means subsurface water in the zone of saturation.

Health hazard: means an actual or potential threat of contamination to the potable water in a public water system, which in the opinion of the Department or its Designee would endanger health.

MGL: means *Massachusetts General Laws*.

Owner: means any person who is installing and maintaining a groundwater well on their premises for private, commercial, or industrial use.

Owner' agent: means any person or body designated by the owner to act as his or her representative.

Person: means an individual, corporation, company, association, trust, partnership.

Potable water: means water from a source that has been approved by the Department or Health Department for human consumption.

Private water supply: means a system that provides water for human consumption, 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.

Private water system: means "private water supply."

Private well: Any driven or drilled hole, with a depth greater than its largest surface diameter developed to supply water intended for human consumption, irrigation purposes, and heating/cooling purposes (geothermal) and not subject to regulation by 310 CMR 22.00. Dug wells are not allowed.

Public water system: means a system for the provision to the public of piped water for human consumption, as defined in 310 CMR 22.22 (8).

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

Septic tank: means a watertight receptacle, which receives the discharge of sewage from a building sewer and is designed and constructed so as to permit the retention of scum and sludge, digestion of the organic matter, and discharge of the liquid portion to a leaching facility.

Static water level: means the level of water in a well under non-pumping conditions.

Structure: means 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.

Surface water: means water that rests or flows on the surface of the Earth.

Unapproved source: means the source distribution system for any water or other liquid or substance, which has NOT been approved by the Department of Environmental Protection or the Health Department as being of safe and sanitary quality for human consumption.

Unconfined aquifer: means an aquifer in which the static water level does not rise above the top of the aquifer.

Water quality notice: means a notice that is recorded at the registry of deeds stating the purpose of the well, its physical location, and a copy of the water test results pursuant to section VIII of these regulations.

Water table: means the upper surface of the zone of saturation in an unconfined formation at which the pressure is atmospheric.

Watertight: means a condition that does not allow the entrance, passage or flow of water or other fluids under normal operating conditions.

Well development: means a procedure consisting of the removal of fine sand and drilling fluid from the water bearing sand, gravel, or rock materials opposite the well screen.

Well vent: means an outlet at the upper end of a well casing or basement end of a non-pressure conduit to allow equalization of air pressure in a well but at the same time so constructed as to prevent entry of water and foreign material into the well.

Yield: means the quantity of water per unit of time, which may flow or be pumped from a well under specified conditions.

Zone of saturation: means the zone below the water table in which all interstices are filled with groundwater.

4.0 WELL CONSTRUCTION PERMIT AND EXEMPTIONS

A Massachusetts Certified Well Driller shall obtain a permit from the Health Department 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
- 2) the well driller's name and proof of valid Massachusetts certification
- 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 or proposed above/below ground structures and siting requirements outlined in section 6.0 of this regulation.
- 4) a description 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 and private ways
 - e) utility rights-of-way
 - f) any other potential sources of pollution.
- 5) proof that the owner of any property abutting the applicant's property has been notified of the applicant's intention to install a well.

- 6) a permit fee, per fee schedule.
- 7) applications shall be submitted in quadruple (4-copies) to the Health Department. Copies then will be distributed by the Health Department to the Inspectional Services Department, Department of Public Works, and the Conservation Commission.

After all necessary information has been submitted, the Health Department shall respond to the applicant within 30 days approving, denying, or conditionally approving the installation of a well at that location. The applicant shall obtain all necessary permits or approvals prior to commencing construction of the well.

The permit shall be on site at all times that work is taking place. Each permit shall expire one (1) year from the date of issuance unless revoked for cause. Well Construction Permits are not transferable.

Exemptions: These regulations shall not apply to monitoring wells, construction dewatering wells, groundwater recharge wells, or hazardous material recovery wells.

5.0 POTABLE, GEOTHERMAL, INDUSTRIAL, OR IRRIGATION WELL CERTIFICATE

The issuance of a Well Certificate by the Health Department shall certify that the private well may be used as a water supply within the Town of Weymouth.

A Potable Well 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 Geothermal Well Certificate (Non-Potable) must be issued by the Health Department before the use of a geothermal well for private, commercial, or industrial use. At no time shall a geothermal well be used for potable water.

An Industrial Well Certificate (Non-Potable) must be issued before the use of a private well for industrial or commercial purposes. At no time shall an Industrial Well be used for potable water.

An Irrigation Well Certificate (Non-Potable) must be issued before the use of a private well for irrigational purposes. At no time shall an Irrigation Well be used for potable water.

The following shall be submitted to the Health Department to obtain a Well Certificate:

- a) a well construction permit (Section 4.0)
- b) a copy of the Water Well Completion Report as required by MassDEP Well Driller Program regulations (310 CMR 46)
- c) a copy of the Pumping Test Report (Potable wells only, unless otherwise requested by the Health Department; (Section 7.0)
- d) a copy of the Water Quality Report (Section 8.0 or 9.0, as applicable)

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

- 1) Issue a Well Certificate
- 2) Deny the applicant a Well Certificate and specify the reasons for the denial.
- 3) Issue a conditional Well Certificate with those conditions, which the Board 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.

A well certificate may be rescinded, suspended, revoked or modified by the Health Department upon its determination that the water system or the water delivered may present a nuisance or a threat to the public health, or upon failure to comply with any conditions contained in a conditional Well Certificate.

The issuance of a Well Certificate shall certify that the private well, may be used as a private water supply. The Well Certificate shall be renewed by the owner every 10 years. The Weymouth Health Department or its agents do not guarantee the water system will function satisfactory or that the water supply will continually produce sufficient quantity and quality of water for its attended use.

6.0 WELL SITING

In locating a **potable or non-potable** well, the applicant shall identify on a plan all potential sources of contamination, which exist or are proposed 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 away from potential sources of contamination as possible, given the layout of the property.

No well shall be permitted for use as a **potable or non-potable** water source unless it meets the following setback requirements:

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

In addition, no well shall be constructed or utilized without Conservation Commission approval if it is located within 200 feet of a perennial river or stream or within 100 feet of the following resources: any freshwater or coastal wetland, riverine wetland, marsh, wet meadow, bog, swamp or kettle hole, whether bordering on surface waters or isolated, whether seasonal or annual; any bank, beach or dune; any ocean, bay or estuary; any reservoir, lake, pond of any size, vernal

pool, river, stream or creek, whether intermittent or continuous, or manmade; any land under aforesaid waters; any land subject to flooding or inundation by groundwater or surface water; or any land subject to tidal action, coastal storm flowage or flooding at or below the one hundred year storm line.

The Health Department reserves the right to impose minimum setback requirements from other potential sources of contamination not listed above. All such additional setback requirements shall be listed, in writing, as a condition of the well construction permit.

Each **potable or non-potable** well shall be located so that it is accessible for repair, maintenance, testing, and inspection. The well shall be completed in a water-bearing formation that will produce the required volume of water under normal operating conditions.

Non-potable water shall be clearly labeled to distinguish such water system piping, and fixtures connected to such systems, from the piping and fixtures of water sources for human consumption. All industrial and irrigation piping and fixtures shall remain in plain sight or shall be installed behind readily removable access panels to permit inspection.

Distribution points for **non-potable** water systems, using water that is not from the public water supply, shall be clearly labeled to warn the public that water from that source is not for human consumption uses.

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.

7.0 WATER QUANTITY and PUMPING TEST

The applicant shall submit to the Health Department for review and approval, a Pumping Test Report for all potable wells and any non-potable well that the Health Department deems necessary. The Pumping Test Report shall include at a minimum: 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 termination of pumping; and reference point used for all measurements.

In order to demonstrate that the well capacity can provide the required volume of water, a pumping test for potable wells 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: (number of bedrooms plus one bedroom) x (110 gallons per bedroom) x (safety factor of 2) = 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 twenty-four (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.

8.0 POTABLE WELL QUALITY TESTING

After the well has been completed and disinfected, and prior to using it as a drinking water supply, or irrigation, 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 certified well driller or an independent contractor, not the homeowner, shall collect the water sample. 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.

Water samples shall be submitted to the Health Department upon the installation of the well and no less than every ten years after such time.

The water quality test, utilizing an applicable US EPA approved method for drinking water testing shall be conducted by Massachusetts certified laboratories and shall include analysis for the following parameters, but not limited to;

Contaminant	Testing Frequency
Arsenic	Initially after well completion, then every 10 years thereafter
Chloride	Initially after well completion, then every 10 years thereafter
Copper	Initially after well completion, then every 10 years thereafter
Fluoride	Initially after well completion, then every 10 years thereafter
Iron	Initially after well completion, then every 10 years thereafter
Lead	Initially after well completion, then every 10 years thereafter
Manganese	Initially after well completion, then every 10 years thereafter
Conductivity	Initially after well completion, then every 10 years thereafter
pH	Initially after well completion, then every 10 years thereafter

Sodium	Initially after well completion, then every 10 years thereafter
Total Coliform Bacteria	Initially after well completion, then every 10 years thereafter
E. coli bacteria	Initially after well completion, then every 10 years thereafter
Nitrate/Nitrite	Initially after well completion, then every 10 years thereafter
Radon	Initially after well completion, then every 10 years thereafter
Gross Alpha Screen	Initially after well completion, then every 10 years thereafter
VOCs	Initially after well completion, then every 10 years thereafter
Petroleum Hydrocarbons TPH Alphatics C5-C8 C9-C12 C9-C18 C19-C36 Aromatics C6-C8 C9-C10 C11-C22	Initially after well completion, then every 10 years thereafter
Total Dissolved Solids	Initially after well completion, then every 10 years thereafter

* If the Gross Alpha screen detects radiation of 15 pci/l or more, then the water must be analyzed for Radium and Uranium concentrations.

This regulation requires that private drinking water wells meet all current Massachusetts Primary Drinking Water Standards and Guidelines adopted by the Massachusetts DEP Office of Research and Standards (ORS). In any case where a private drinking water well does not meet such Standards or Guidelines, as it deems necessary for the protection of public health, safety or welfare, the Health Department may take action including but not limited to requiring the property owner to provide an alternative source of drinking water or requiring the installation of a drinking water purification system.

The Health Department 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 owner of a rental property shall make results of all water quality tests available to all tenants of the property and the Health Department. In cases where the well water does not meet the water quality standards outlined above, the Health Department may require the property owner to provide an alternative approved source of drinking water for the tenants.

Prior to selling, conveying, or transferring title to real property, the owner shall have tested the water of every private drinking water well serving that property for the parameters listed above. This water quality testing shall have been performed not more than one (1) year prior to transfer of the property. Results of the water quality testing shall be submitted to the Board of Health prior to property transfer.

In addition, the owner shall give copies of all available water quality test results of which he/she has knowledge (regardless of age of results) for the private well in question to any buyer and/or broker involved in the transfer. In the event that there is no buyer at the time the water is tested, a copy of all water test results must be given by the owner to the buyer before the property is put under agreement.

9.0 NON-POTABLE WELL QUALITY TESTING

The Health Department reserves the right to require testing or re-testing for any of the potable well parameters or additional parameters (for non-potable wells) when, in the opinion of the Health Department, it is necessary due to local conditions, events, 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.

10.0 WELL CONSTRUCTION

Pursuant to 310 CMR 46.02(1), no person in the business of drilling shall construct a well unless certified by the Department of Environmental Protection (DEP) Well Drillers Program.

Any work involving the connection of the private well to the distribution system of the residence must conform to the most current editions of the Massachusetts State Plumbing Code 248 CMR 10.000, as well as, the Massachusetts State Electrical Code 527 CMR 12.00. 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 licensed installer properly permitted by the Weymouth Plumbing and/or Electrical Inspectors.

Unprotected cross connections are in direct violation of this regulation, as well as, State of Massachusetts Drinking Water Regulations. In addition, a physical connection is not permitted between multiple water supplies which satisfy the requirements of these regulations, and another water supply that does not meet these requirements.

Cross connections between individual water supplies shall not be made unless specifically approved by the DEP, as well as, the Town of Weymouth Plumbing Inspector (see 248 CMR Section 10:14 (7) (C) & (D)). No plumbing permit shall be issued for an installation requiring reduced pressure backflow protectors or double check valve assemblies until the application of such permit is accompanied by a letter of approval from the DEP. Permits for such cross-connection devices shall be properly maintained through the DEP and Weymouth Plumbing

Inspector. Owners of such proposed cross connection devices shall submit the following to the Weymouth Plumbing Inspector:

- 1) A letter of approval from the DEP.
- 2) A complete design data sheet.
- 3) A completed application for a permit to install plumbing by a licensed plumber.
- 4) A schematic showing incoming water lines and the separation of domestic and well water. In addition, the schematic shall specify the type and model numbers of the proposed devices to be used and all proposed clearances involved in the installation.

All installations of backflow prevention devices, double check valves, associated piping, pumps, tanks, and electrical connections, shall be inspected and approved for use by the Weymouth Plumbing and/or Electrical Inspectors or their representatives. Subsequent to the installation of such cross connection devices, an initial test and inspection must be arranged to verify the correct installation and the proper operation of the plumbing system. In addition, the cross connection device must be tested by the Weymouth Plumbing Inspector on a semi-annual basis. Fees will apply per Building Department Fee Schedule.

All private 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 and that 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.

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

The driller shall operate all equipment according to generally accepted standards in the industry and shall take appropriate precautions to prevent damage, injury or other loss to persons and property at the drilling site. Well construction design shall insure that surface water does not enter the well through the opening or by seepage through the ground surface. Construction site waste and materials shall be disposed of in such a way as to avoid contamination of the well and the aquifer. 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 potable water source, which will not result in contamination of the well or the water bearing zones penetrated by the well. Such water shall not be obtained from wetlands, swamps, ponds and other similar surface features.

All drilling equipment including pumps and down hole tools, shall be cleaned and disinfected prior to drilling each new well or test hole.

All drilling fluids shall be nontoxic. Drilling fluid additives shall be stored in clean containers and shall be free of material that may adversely affect the well, the aquifer, or the quality of the water to be pumped from the well. All surfactants shall be biodegradable.

All wells, including those that have been hydrofractured, shall be developed in order to remove fine materials introduced into the pore spaces or fractures during construction. One or more of the following methods shall be used for development: overpumping, backwashing, surging, jetting, air- lift pumping.

The completed well shall be sufficiently straight so that there will be no interference with installation, alignment, operation or future removal of the permanent well pumps.

11.0 WELL CASING

Private water supply wells shall be constructed using steel well casing. The casing shall be of adequate strength and durability to withstand anticipated formation and hydrostatic pressures, the forces imposed on it during installation, and the corrosive effects of the local hydrogeologic environment.

All casing used in the construction of private water supply wells shall be free of pits, breaks, gouges, deep scratches and other defects. If previously used casing is installed, it shall be decontaminated and disinfected prior to installation.

Installation of water well casing shall be done in a manner that does not alter the shape, size, or strength of the casing and does not damage any of the joints or couplings connecting sections of the casing. A standard driveshoe shall be used when casing is installed. The drive shoe shall be either welded or threaded to the lower end of the string of casing and shall have a beveled metal cutting edge that is forged, cast, or fabricated for this specific purpose.

Upon completion of the installation procedure, the entire length of the casing above the intake shall be watertight.

For wells completed above grade, the casing shall extend at least 12 inches above the finished ground surface unless the well is located in a 100-year floodplain as shown on the most recent Flood Insurance Rate Map (FIRM), published by the Federal Emergency Management Agency (FEMA). For wells constructed in a FEMA 100-year floodplain, the casing shall extend at least two feet above the level of the highest recorded flood. The top of the casing shall be reasonably smooth and level.

Segments of steel casing shall be coupled by using threaded casing, coupling, or by welding the joint. Recessed or reamed and drifted couplings shall be used on threaded casing and no threads shall be left exposed once the joint is completed. When welded casing joints are used, they shall conform to the most recent revision of AWWA C206, "Standard for Field Welding of Steel Water Pipe." The weld shall be at least as thick as the wall thickness of the well casing and shall be fully penetrating. When completed, a welded casing joint shall have a tensile strength equal to or greater than that of the casing.

12.0 WELL SCREEN

A well screen is necessary for all drilled wells that are completed in unconsolidated formations.

Wells completed in bedrock do not require a screen unless the bedrock formation is brittle in nature or has a potential for collapse. The well screen aperture openings, screen length, and diameter shall be selected so as not to limit the aquifers' water-yielding characteristics while preventing access of soil particles that would detract from well efficiency and yield.

13.0 GROUTING and SEALING

Private wells drilled in bedrock shall be grouted from the top of the weathered rock interface to a minimum of fifteen (15) feet into competent bedrock. Either neat cement grout or sand cement grout shall be used and it shall be emplaced using standard grouting techniques as described in the DEP Private Well Guidelines (most recent).

All wells completed with the casing extending above grade shall have a surface seal designed to eliminate the possibility of surface water flowing down the annular space between the well casing and the surrounding backfilled materials. The surface seal shall extend to a depth below the local frost line.

14.0 PUMPS and PUMP EQUIPMENT

All pumps shall be installed either below the frost line with a pitless adapter or in some other heated and protected sanitary location. Above ground pumps shall be installed in sheltered, dry, accessible locations and shall be protected from freezing. Shallow-well pumps shall be installed as near the well or water source as possible to minimize suction lift.

Deep-well reciprocating pumps shall be installed directly over the well. Submersible and helical rotor pumps must be installed in the well. A deep-well jet pump may be offset from the well.

15.0 WELLHEAD COMPLETION

Well casing shall not be cut off below the land surface unless the well is being abandoned and permanently plugged. Well casing terminating above-grade shall extend at least 12 inches above the predetermined ground surface at the wellhead except when the well is located within a FEMA 100-year floodplain as shown on the most recent Flood Insurance Rate Map. When a well is located in a FEMA 100-year floodplain, the well casing shall extend at least 2 feet above the level of the highest recorded flood. The top of the well casing shall be reasonably smooth and level.

All wells shall be equipped with a sanitary seal or watertight cap designed to prevent surface water and foreign matter from entering the well. A flowing artesian well shall be equipped with a shut-off valve and backflow preventer so that the flow of water can be stopped completely when the well is not in use.

All wells except flowing artesian and dug wells shall be vented. The opening of the vent pipe shall be covered with a 24-mesh corrosion resistant screen and shall be large enough to prevent water from being drawn into the well through electrical conduits or leaks in the seal around the pump when the pump is turned on. The vent pipe shall terminate in a downward position at or above the top of the casing.

All connections to a well casing made below ground shall be protected by either a pitless adapter or a pitless unit that complies with the most recent revision of National Sanitation Foundation Standard Number 56, entitled "Pitless Well Adapters."

Above-grade connections into the top or side of a well casing shall be at least 12 inches above the established ground surface (non-FEMA floodplain) or two feet above the level of the highest known flood (FEMA flood plain area). Above-grade connections shall be sealed so that they are watertight.

The ground immediately surrounding the well casing shall be sloped downward and away from the well in all directions to eliminate the possibility of surface water ponding.

16.0 DISINFECTION

Upon completion of well construction, the well contractor shall disinfect the well. If a pump is to be installed by the well contractor immediately upon completion of the well, the contractor shall disinfect the well and the pumping equipment after the pump has been installed. If the pump is not installed upon completion of the well, the pump contractor shall, upon installation, disinfect the well and the pumping equipment. The pump contractor shall also disinfect the entire water supply system after any maintenance or repair work is done on the pump.

When a well is disinfected, the initial chlorine concentration shall be 100 mg/l throughout the entire water column.

For newly constructed or altered wells in which the pump is not immediately installed, the chlorine concentration used to disinfect the well shall be 100 mg/l. Upon installation of the pump, disinfection of the well, the pumping equipment, and the distribution system, if connected, shall be accomplished with a chlorine concentration of 100 mg/l.

The disinfectant solution shall remain, undisturbed, in the well for a minimum of two (2) hours. After all the chlorine has been flushed from the water supply system, a water sample shall be collected and submitted to a state certified laboratory. For new wells, the sample shall be tested pursuant to Section 8.0 or 9.0 of these regulations and submitted to the Health Department for review. A "Well Certificate" must be issued by the Health Department prior to use of the well. For wells that have undergone repair, the sample shall be tested for coliform bacteria and any other parameters deemed appropriate by the Health Department.

17.0 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.

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 Health Department that the use of the well is to be permanently discontinued and the decommission of the well is properly registered on

the appropriate completion report with the Department of Environmental Protection Well Drillers Program

- 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

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. Only certified well drillers may plug abandoned wells, test holes, and borings.

18.0 WELL USE RESTRICTIONS

The Health Department in conjunction with the Department of Public Works, Conservation Commission, or other State and Federal Authorities reserve the right to restrict the use of wells for irrigational purposes at times of drought. The Health Department shall only restrict irrigational wells if the continued drawdown of the aquifer shall deplete the potable water or risk the depletion of potable water for public and private consumption.

19.0 RIGHT OF ENTRY

To the extent permitted by law, owners or operators shall authorize the Health Department, Inspectional Services Department, Conservation Commission, and Public Works agents and employees, to enter, examine or survey the premises at any reasonable time for the purpose of compliance inspections, whether or not there is prior evidence of non-compliance. Agents may examine any records related to the installation, maintenance, operation and testing of the water system. Refusal of entry for an agent or refusal of access to records may be grounds for an emergency suspension.

20.0 GENERAL ENFORCEMENT

20.1 NON-EMERGENCY ORDERS to SHOW CAUSE

These regulations may be enforced by the Health Department, Inspectional Services Department, Conservation Commission, Fire Department, Police Department, and the Public Works Department, except that only the Health Department may grant, deny, revoke, suspend or modify permits or variances of these regulations.

The grounds on which the Health Department may deny renewal, revoke, suspend, or modify any permit or certification issued pursuant to these regulations include, but are not limited to:

- a. Refusal to permit an agent of the Health Department or other government official to inspect the facility and/or any records pertaining to the operation of the water source and its products;
- b. Interference with an agent of the Health Department or other government official in the performance of their duty;

- c. A criminal conviction of the permit holder relating to the operation of the well or sale or use its product;
- d. Failure of the permit holder to submit water monitoring reports for water quality standards;
- e. Failure of the water source to pass well siting and/or water quality standards;
- f. Failure to pay the required permit fees or assessed fines or penalties;
- g. A determination that the water source or its distribution system may present a nuisance or threat to the public health;
- h. The well owner and/or operator's substantial failure to comply with these regulations;
- i. Keeping or submitting any misleading or false records or documents related to the operation of the water source or use of its product;
- j. Providing or pumping water which may not be safe and sanitary for human consumption or which may constitute a nuisance, source of filth, or cause of sickness; and
- k. Otherwise operating a well so as to cause a threat to the public health or safety.

Such action by the Health Department may include ordering other appropriate relief, including but not limited to ordering the well to be decommissioned.

These regulations may be enforced through appropriate criminal or civil process, including but not limited to that specified at M.G.L .c. 40, section 21D, in any court of competent jurisdiction.

20.2 EMERGENCY SUSPENSION and ORDERS

1. The Health Department may, without prior notice or hearing, suspend any permit or certification, or otherwise issue a cease and desist order, if any person or entity proposes to or is providing or pumping water in a manner which constitutes an immediate and substantial threat to public health or safety.
2. The person or entity named in the suspension or order may appeal the issuance of such order to the Director of the Health Department or his designee.
3. Upon the Director's affirmation of all or part of a suspension or order, the person or entity named therein may appeal further to any court of competent jurisdiction.
4. Pendency of any appeal shall not stay the emergency suspension or order unless otherwise determined by a court of competent jurisdiction.

21.0 FINES for VIOLATIONS of ORDERS and SUSPENSIONS

Any person or entity violating any term or condition of this regulation may be punished, under Chapter 111 Section 31 of the Massachusetts General Laws as a criminal offense or Chapter 40 section 21D of the Massachusetts General Laws as a noncriminal offense, by fines for each violation of not less than fifty dollars (\$50) nor more than one thousand dollars (\$1000) for each day that such violation continues or by criminal complaint in the appropriate venue. Each day or portion thereof during which a violation continues shall constitute a separate offense.

22.0 SEVERABILITY

If any chapter, section, paragraph, sentence, clause, phrase, or word of these regulations shall be declared invalid for any reason whatsoever, that decision shall not affect any other portion of these regulations, which shall remain in full force and effect; and to this end the provisions of these regulations are hereby declared severable.

23.0 DISCLAIMER

The issuance of a well permit shall not be construed as a guarantee by the Weymouth Health Department 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.

24.0 EXISTING WELLS

Wells constructed prior to the adoption of this regulation are not required to obtain a well certificate.

If the Health Department has reason to believe that a health hazard may exist in waters of an existing well constructed prior to this regulation, they may require that the well owner monitor the well as specified by Section 1.15 for all current Massachusetts' Primary Drinking Water Standards and Guidelines adopted by the Massachusetts DEP Office of Research and Standards. Final analyst's test reports must be submitted to the Health Department within 30 days of the date requested.

25.0 EFFECTIVE DATE

These regulations were adopted by unanimous vote of the Board of Health on April 3, 2013.