



TOWN OF MEDWAY, MA BOARD OF HEALTH RULES AND REGULATIONS FOR PRIVATE WATER SUPPLY

I. PURPOSE

These regulations are intended to protect the public health and general welfare by ensuring that private WELLS are constructed in a manner that will protect the quality of the groundwater derived from private WELLS.

II. AUTHORITY

These regulations are adopted by the Medway Board of Health ("BOH"), as authorized by M.G.L., Ch.111, Sec. 31. These regulations supersede all previous regulations adopted by the BOH regulating the construction of private WELLS.

III. DEFINITIONS

WELL: Defined as any pit, pipe excavation, spring, casing, drill hole, or other source of water to be used in any manner for the purpose of supplying potable water in the Town of Medway. This can also include dug WELLS, driven or tubular WELLS, drilled WELLS (artesian or otherwise), springs, gravel-packed WELLS, gravel-developed and wash-boring WELLS as further described in the U.S. Environmental Protection Agency's Manual of Individual Water Supply Systems.

Water Systems: Includes pipes, valves, fittings, tanks, pumps, motors, switches, controls, and appurtenances installed or used for the purpose of storage, distribution, filtration, treatment or purification of water for any use whether or not inside a building.

Private Water Supply: Any water system serving or intended to serve for human consumption, or for domestic uses that is not regulated as a public water supply under Regulation 310, CMR 22.00 on a single lot, shall be considered a private water supply. The system shall not be contained on the lot and shall include all of the sources, treatment works, and distribution lines to the point where distribution takes place within the building on the lot.

Irrigation or Non-Potable Water Supply: Any water system serving or intended to provide water for irrigation for non-potable use and not included under the definition of private water supply above. The WELL shall not be connected, at any time, to a dwelling or a building unless it meets the requirements of a private water supply and has the BOH's written approval.

IV. PERMITS FOR PRIVATE WATER SUPPLY

No private water supply shall be installed, altered, or repaired until a WELL construction permit has been obtained from the BOH. A non-potable WELL application must be submitted to the BOH (Well/Pump Application – Appendix A.) The fee for this permit shall be set by the BOH on a periodic basis. A permit so granted shall expire eighteen months from the date of issue unless construction has begun.

Permit Application: A Massachusetts Certified WELL Driller as defined under Regulation 310 CMR 46.01 shall obtain a WELL construction permit ("permit") from the BOH prior to the commencement of construction of the private WELL.

Each WELL construction permit application shall include the following:

- i. Property owner's name and address
- ii. WELL driller's name and a copy of valid Massachusetts certification
- iii. Plan with specified scale, signed by a registered surveyor or engineer, showing the location of the proposed WELL in relation to the existing of proposed above or below ground structures
- iv. Description of proper and current land uses within 200 ft. 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
- v. Proof that the owner of any property abutting the applicant's property has been notified of the applicant's intentions of installing a WELL
- vi. A plot plan shall be submitted with application (Well/Pump Application – Appendix A) indicating the following:
 - a. proposed location of the WELL
 - b. property lines (with bearings and distances)
 - c. dimensions to the proposed WELL from the property lines
 - d. all building, sewer pipes, septic systems within 200 ft.
 - e. drains, easements, wetlands within 100 ft.
 - f. 100 year flood evaluation for flood zones within 100 ft. of the proposed WELL
 - g. For a lot that will be served by an on-site septic system, the Plot Plan shall be the septic system plan with the proposed location of the WELL shown, all of the above requirements shown and all septic systems within 200 ft. of the proposed WELL
- vii. Designated permit fee must be made payable to "Town of Medway."

The permit shall be on site at all times while work is taking place. Each permit shall expire one year from the date of issuance unless revoked for cause, or extended. Permits may be extended provided that the BOH receives a written explanation for the request for approval one month prior to the one year expiration date.

WELL construction permits are non-transferrable.

GENERAL REQUIREMENTS

Permit Release - No foundation or building permit shall be issued until the WELL is installed, an as-built plan is stamped and signed by a Registered Land Survey and submitted to the BOH, and the WELL has been demonstrated to supply water of quality and quantity as specified herein (see Water Supply Certificate - Appendix B.) The WELL is not to serve any occupants of the building until an acceptable tested water sample has been obtained from the tap in the building. The water quality test for bacteria has to be taken within 30 days prior to the date of occupancy. The water quality test for chemicals is to be taken within one year to the date of occupancy.

Sanity Performance - The WELL contractor shall observe sanitary measures and precautions in the performance of his/her work in order to prevent pollution or contamination of the WELL. Use of water from streams, swamps, or abandoned WELLS for drilling is prohibited.

WELL Drillers - WELL drillers must be certified by the Massachusetts Department of Environmental Protection WELL Driller Program. A copy of said registration with valid number must be filed with the BOH prior to any WELL drilling in the Town of Medway.

WELL Protection - No WELL shall be drilled in standing water or in such location that may allow standing water from rainfall run-off or groundwater to collect or pool. The casing shall be set 15 ft. into competent bedrock and properly sealed to keep out surface water or entry of any other subsurface contamination. The WELL cap shall be at least 12 inches above the finished surface grade and a concrete extending from the casing at least two feet in all directions and sloping away from the casing shall be constructed.

WELL Location - The distance from a WELL to a sewage disposal system shall be maximized. The following WELL location guidelines shall be required. No WELL shall be located no less than:

- i. 100 ft. from a leaching area located downhill (down gradient) from a WELL
- ii. 125 ft. from a leaching area located uphill (from gradient) from a WELL
- iii. 25 ft. from the layout of any public or private way or street
- iv. 15 ft. from any other lot line

- v. 5 ft. from any building or projections thereof
- vi. 50 ft. from any part (other than the leaching area reference above) of a subsurface sewage disposal system
- vii. 15 ft. from any part (other than the leaching area referenced above) of a subsurface sewage disposal system
- viii. 15 ft. from a right-of-way
- ix. 100 ft. from a stable, barnyard, and/or manure storage
- x. 25 ft. from any surface water; including but not limited to wetlands
- xi. 100 ft. from underground fuel storage tank or pesticide storage tank
- xii. 15 ft. from a power line or overhead distribution line

These distances may be increased when, in the opinion of the BOH, adverse or other site related conditions exist which warrant additional protection.

Number of WELLS - There shall be a separate WELL for each dwelling. The WELL serving that dwelling shall be located within the lot boundaries of the building site. No WELL shall be used to supply more than one dwelling (MGL Ch. 40, Sec. 54.) For non-residential WELLS, the BOH shall determine the number of WELLS required for the specific building site.

Pump Houses - Pump houses, pump rooms, and adapters shall be installed in accordance with the US Environmental Protection Agency's Manual of Individual Supply Systems and shall also be in conformance with State requirements. All WELLS (potable and non-potable) will be provided with anti-siphon valves at the end of each WELL.

Pump House Protection - Pump houses, pumps, or pipe pits and WELLS shall be designed and constructed so as to prevent flooding, freezing or the entrance of sources of pollution or contamination.

Approvals - No person shall install or enter into a contract for installing or to make additions, modifications, or alterations to any private water supply before submitting complete plans, specifications, and descriptions to the BOH, then receiving written approval in the form of a WELL construction permit from the BOH. The BOH must approve private water supply systems before occupancy is permitted.

WELL SPECIFICATIONS

Well Yield - There shall be a minimum safe yield of 200 gal. per bedroom per day at 20 lbs. per square in. residual pressure as measured at the highest fixture serviced by the WELL. A bedroom includes any undeveloped area that could be made into a bedroom.

Storage - All demands for water shall be provided from storage in a pressure tank. Pressure tanks for individual home installation shall be a diagram type and have a minimum capacity of 36 gal.

Tests - A log of the WELL, showing depth and type of overburden, depth of casing installed below the surface grade, diameter of casing, diameter of hole in the rock, static water level, and pump rate which can be sustained for at least 4 hrs. at constant drawn down depth shall be included with the application for permit compliance. The following minimum guidelines shall be applied:

- i. A pump test shall be made with the faucet open to waste for a four hour constant pumping period using a pump capable of producing 10 gal. per minute (GPM or more)
- ii. In the event the WELL is exhausted during the initial 4 hour pump testing period, the faucet shall be so regulated after suitable WELL recover (of not more than 30 minutes) in order to allow pumping at a constant rate for an additional 4 hours at a constant depth to determine the yield
- iii. A sustained pumping rate of two GPM for a 4 hour period shall be the rate as presented in subsection below
- iv. After the pumping test, the WELL shall recover within 85% of the original static water level within a 24 hour period
- v. Testing and evidence to show satisfactory WELL yield, recovery, and compliance with these pump testing requirements shall be certified in writing by the WELL driller and submitted to BOH
- vi. A quantity test shall be performed by competent licensed pump or WELL drilling contractors. The WELL shall produce a water supply for an individual dwelling unit by an on-site as follows:

WELL Drawing Depth	Minimum WELL Yield (GPM – 4 hrs)
To 100 ft.	5
100 – 199 ft.	4
200 – 299 ft.	3
300 ft. and deeper	2

The results of all testing shall be submitted to the BOH for approval. The results shall be submitted on the Massachusetts Department of Environmental Protection WELL Completion Report as required by 310 CMR 46.03 and the WELL contractor shall be fully responsible for all data submitted.

AUXILIARY POWER

Auxiliary power must be available to maintain a water supply for multiple dwellings.

GRADE DETERMINATION

An adapter shall be provided in such a manner that the permanent watertight casting of the WELL shall terminate a minimum of 12 in. above the finished grade and 24 in. above the 100 year flood elevation; whichever is greater.

CONTAMINATION PRECAUTIONS

Each WELL installed to provide water for human consumption must be curbed and covered to prevent entrance of contamination and to divert surface water away from the WELL.

PIPES AND EQUIPMENT

All pipes and connections shall be of non-toxic materials and meet the approval by the New Water Works Association and American Water Works Association (AWWA)

The installation of pipes shall be such that they are protected from crushing, freezing, and attack by animals or rodents.

Dissimilar metals should be discouraged in the water system. The use of non-conductive plastic inserts between pipes and fittings or the installation of sacrificial anodes is allowed in minimizing electrical corrosion problems.

Electrical service grounds shall not be attached to water piping. All electrical service and controls of the WELL must be permitted, inspected, and approved according to the Town regulations and State Building Codes.

All WELLS (potable and non-potable) will be provided with anti-siphon valves at the end of the WELL

WATER QUALITY SPECIFICATIONS

Sanitary Protection - Sanitary protection shall be incorporated into the construction of the WELL. All newly completed WELLS shall be disinfected in accordance with the instructions from the US Environmental Protection Agency's Manual of Individual Water Supply Systems

Sampling - After construction of the WELL; having been completed, disinfected, and prior to using it as a private drinking water WELL, the baseline water quality testing shall be conducted. For this purpose, a minimum of 2 water samples shall be taken and tested by a Mass DEP certified laboratory. Once sample shall be taken where the WELL installation is complete. The second sample, for bacteria, is to be taken within 30 days prior to the date of occupancy and shall be witnessed by the Health Agent from a tap in the dwelling. The water quality test for chemicals shall be valid for one year prior to the date of occupancy.

All results shall be submitted to the BOH for approval. Acceptance of the water quality shall be on its conformance with the normal characteristics of ground water in the area, as WELL as meeting all current Massachusetts' Primary and Secondary drinking water standards and guidelines adopted by the Mass DEP Office of Research and Standards (ORS.) In any case where a private water supply WELL does not meet Standards or Guidelines, as it deems necessary for the protection of public health, safety or welfare,

the BOH may take action, but not limited to requiring the property owner to provide an alternative source of drinking water.

The owner of every WELL used for drinking water; including those serving a property which is rented or leased; shall have its water tested at a Massachusetts certified laboratory for the following chemical and bacteriological parameters at a minimum of once a year: total coliform bacteria, E. coli bacteria, nitrate/nitrite, pH, conductivity, sodium, and iron. All other required chemical parameters should be tested at a minimum of every ten years. The BOH may require more frequent testing or testing for additional parameters, where other water quality problems are known or suspected to exist.

The owner or a rental property manager shall make results of water quality tests available to all tenants of the property of the BOH. In cases where the WELL water does not meet the water quality standards outlined above, the BOH 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 water supply WELL serving that property. A water sample from each WELL shall be submitted to a Massachusetts certified laboratory for testing for the parameters listed in the Water Quality section of this regulation. This water quality testing shall have been performed not more than one year prior to transfer of the property. Results of the water quality testing shall be submitted to the BOH prior to property transfer.

In addition, the owner shall give copies of all available water quality tests results of which he/she has knowledge (regardless of age of results) for the private water supply 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.

Laboratory Tests

A chemical, physical, and bacteriological analysis of the water samples by a Massachusetts Certified laboratory is required. Water that does not meet the accepted standards for potable water supplies shall be grounds for the rejection of the WELL by the BOH.

A bacteriological test to indicate 0 (0 per 100mL) coliform density is required. A total bacteria count at 35C shall be determined and reported to the BOH. Testing shall be conducted for Total Coliform and E.coli bacteria.

Chemical and physical analysis, utilizing the applicable US EPA approved method for drinking water including testing for volatile organic compounds (per EPA 624) is required. Analysis shall be performed for (but not limited to) pH, color, odor, turbidity, iron, manganese, nitrate/nitrite, alkalinity, total hardness, sodium, chloride, lead, copper, fluoride, and arsenic.

In WELLS drilled into bedrock, the BOH requires that in addition to the parameters listed above, a Gross Alpha Screen and Radon test be performed. If the Gross Alpha screen detects radiation of 15 pci/L or more, then the water must be analyzed for Radium and Uranium concentrations

For irrigation WELLS, the BOH requires annual testing for E.coli, bacteria and Nitrate/Nitrite, as accidental consumption could result in acute exposure.

If the sodium content in a private water supply exceeds 20mg/L, it must be reported to the occupant. Proof of notification/reporting shall be furnished to the BOH.

If any concentrations of volatile organic compounds are detected and/or if the, sodium concentration exceeds 20 mg/L, a document shall be attached to the deed and recorded in the Norfolk County Registry of Deeds that identifies the chemicals and their concentrations. Evidence of said recordings of the will be provided to the BOH prior to the issuance of the Certificate of WELL Approval.

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

WATER CONDITIONING

If a WELL has become bacterially contaminated, the BOH may require an entire disinfection unit be installed if drilling a new WELL is not feasible.

If the natural water quality does not meet the physical and/or chemical criteria as listed in Section D (*Water Quality Specifications*), water conditioning shall be required. Water softening, or other treatment shall not be discharged into the septic system. Treatment units shall be installed with the capability of bypassing such units if necessary or desired. A sample of the treated water must be tested and submitted to the BOH showing compliance prior to the issuance of the certificate of WELL approval.

PROHIBITIONS

The following are prohibitions established by the BOH:

- i. Surface water supplies for private or water supply is prohibited
- ii. Cisterns and the new construction of dug WELLS are prohibited
- iii. Cross connections of any sort will not be allowed. It is prohibited by 310 CMR 22.22 (2) (j) to have a cross connection between a public water system and a private WELL used for either drinking water or irrigation purposes
- iv. WELLS used for drinking water and domestic water supply shall not be used to provide water for groundwater heat pump systems, water cooling, air conditioning systems, or irrigation. Any WELL used for such systems shall be approved by the BOH only after the applicant has submitted sufficient evidence to the satisfaction of the BOH of such use will not disrupt any quality or quantity of water from any WELL and that the WELL will satisfy the manufacturer's recommendations for proper equipment operation

In addition to a BOH WELL construction permit and meeting the associated water quality requirements as a drinking water source; a permit will be required from the Mass DEP's Underground Injection Control (UIC) program. The Mass DEP geothermal permitting guidelines contain requirements concern WELL listing, WELL design, and water quality. These specific requirements can be found in the guidelines for ground source heat pump WELLS at <http://mass.gov/dep/water/laws.gshpguid.pdf>.

Furthermore, an approved cross connection backflow prevention device, permitted by DEP, must be approved as part of the application submitted to the BOH.

All WELLS for irrigation or non-potable water use shall be registered with the BOH (see Well/Pump Application – Appendix A) WELLS shall be posted with an appropriate sign which reads "NOT FOR HUMAN CONSUMPTION." These WELLS will not be connected to any potable water supply.

VARIANCES

The BOH may vary the application of any provision of these regulations with respect to any particular case, when in its opinion, the enforcement thereof would do manifest injustice, provided that the decision of the BOH shall not conflict with the intent of these standards, or State or Federal Regulations and will be protective of the public health. Any variance granted by the BOH shall be in writing.

If deemed necessary, the BOH may qualify, revoke, suspend, or cause to expire any variance or other modification authorized by these regulations. A variance or modification authorized to be made by these regulations may otherwise be modified or suspended, in whole or in part, only after the holder thereof has been notified in writing and has been given an opportunity to be heard by the BOH.

ENFORCEMENT

i. The BOH shall investigate violations of these regulations or conditions of the WELL permit and may take such actions as the BOH deems necessary for the protection of the public health and the enforcement of these regulations. If any investigation reveals a violation of these regulations or permit conditions, the BOH shall order the private WELL owner to comply with the violated provision(s).

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 service civic process by leaving a copy of the order as 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 owner's last and unusual 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 for at least 3 out of 5 consecutive days in one or more newspapers of general circulation within the municipality wherein the private WELL affected is situated
- ii. The inspection performed by the BOH Agent, as well as a permit granted under these regulations, cannot be construed as a guarantee by the Town of Medway or its Agents, that the water system, so inspected and regulated, will function satisfactorily.
- iii. The BOH may require a restriction to be recorded in the Norfolk County Registry of Deeds in cases that, in the opinion of the BOH, the water analysis shows marginal compliance with the criteria of these regulations.

JURISDICTION

No part of Medway's "Rules and Regulations for private water supply" is intended to, nor shall it, supersede any of the "drinking Water Regulations of Massachusetts" with respect to non-community and public water supply systems as defined therein.

WELL/PUMP DATA

WELL/Pump application form, including an As-Built plan, must be submitted to the BOH and approved by the BOH before a building permit can be issued.

After a Public Hearing held on March 10th, 2014, these Rules and Regulations were adopted by vote of the Medway BOH and are to be in full force and effect on and after March 11th, 2014. A copy of the regulations have been filed with the Town Clerk and Mass DEP.

Voted March 10th, 2014 by the Medway BOH

Michael Heavy, Chairman

John Mill III, Clerk

Jordan Warnick, Ph.D

A true copy attest:

MaryJane White

Town Clerk

Town of Medway



TOWN OF MEDWAY
Board of Health
155 Village Street
Medway, Massachusetts 02053
508.533.3206

FOR OFFICE USE ONLY
Permit No: _____
Check No: _____
Amount: _____
Date Rec'd: _____

Well / Pump Application
(Appendix A)

Amount to submit with application: \$150.00
Checks can be made payable to "Town of Medway"

Property Owner Information

Name: _____

Address: _____

Contact Number: _____ Email: _____

Property Information

Address: _____ Medway, MA 02053

Assessor's Map: _____ Parcel: _____ Town Sewer: _____ Private Septic: _____

Well-Drilling Information

Well Drilling Company Name and Town: _____

Well Driller Certification Number: _____

Phone Number: _____ Email: _____

Well Driller's Signature: _____ Date: _____

Property Data

Owner Name: _____

Street Address: _____ Lot #: _____

Contact Number: _____

Pumps (to be completed **PRIOR** to installation)

Name & size of pump:	Type:
Size of tank:	Pump delivers: _____ GPM:
Pipe used in well:	Type?: <i>Circle Pipe Type</i> Cast Iron Galvanized Plastic
Sleeve used to protect Pipe? <i>Circle one</i> Yes No	Type of well seal:

Pump Installers Signature: _____ Date: _____

Wells (to be completed **at time of pumping test**)

Type of well:	USE:
Diameter of well:	Size of casing:
Depth to bedrock (BGS):	Depth of casing into bedrock:
Seal been tested? <i>circle one</i> YES NO	Date of test:
Depth of well:	Water-bearing rock:
Depth to static water level (BGS):	Delivers:
GPM for: <i>(how long?)</i>	Date of service:
Drawdown: _____ Ft. (BGS) after pumping for: _____ hours at : _____ GPM	

Date water analysis report was submitted to BOH: _____

Signature of BOH Representative: _____



TOWN OF MEDWAY
Board of Health
155 Village Street
Medway, Massachusetts 02053
508.533.3206

FOR OFFICE USE ONLY
Permit No: _____
Date Rec'd: _____

Water Supply Certificate
(Appendix B)

This is to certify that _____, a well-drilling company with
Certificate Number _____ has cited and constructed _____ destroyed _____ a well located at
_____ in Medway, Massachusetts, given permission to do so by the
property owner, _____. The permit number for this project is: _____.

It has been installed in accordance with the provisions of the Medway Board of Health's Private Well Regulations. Water
quality and quantity standards were met after pumping the well as described in the regulations.

Type of Well: _____ Well Yield: _____

Name of Water Quality Testing Laboratory: _____

State Certification Number: _____

Date of Testing: _____ (please attach copy of analytical testing report)

If the purpose of this well changes from that which is specified on this certificate, it is the responsibility of the homeowner
to notify the Board of Health of its new use.

**The issuance of this certificate shall not be construed as a guarantee that the system will function satisfactorily.
Should you have concerns surrounding the work that was delivered, it is recommended that you contact the well-
drilling company directly.**

Permit granted conditionally as follows (if applicable): _____

Approved by BOH Representative: _____ Date: _____