TOWN OF COHASSET, MA
Board of Health

Regulations for Private Wells

Promulgated:
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Revised:
October 2, 2013
December 18, 2018

For more information about Private Wells, or for clarification about the requirements of these regulations, please contact the Cohasset Board of Health at:
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I. PURPOSE

a. The purpose of this regulation is to provide for the protection of the public's health, safety and welfare, and the environment by, among other things, requiring the proper siting, construction, testing and decommissioning of private wells for drinking water and irrigation purposes in the Town of Cohasset, MA.

b. This regulation does not regulate the construction, use, or maintenance of geothermal wells, underground injection controls (UIC), monitoring wells, or public water supplies.

c. This regulation does not regulate an Owner's use of his and/or her land beyond the uses that are described in a. above.

II. AUTHORITY

These regulations are adopted by the Town of Cohasset Board of Health, pursuant to its authority under Massachusetts General Laws, Chapter 111, Section 31. Upon promulgation, these regulations supersede all previous Regulations for Private Wells adopted by the Cohasset Board of Health.

III. DEFINITIONS

Affected Party: Any Person whose property may be adversely affected by the siting of a Private Well.

Agent: Any Person designated and authorized by the Board to implement and enforce, in whole or part, these regulations. To the extent provided by the Board, the Agent shall have the full authority of the Board and shall be directly responsible to the Board, and under its discretion and control.

Applicant: Any person who applies 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.

Bedroom: A room providing privacy, intended primarily for sleeping and consisting of all of the following:

(a) floor space of no less than seventy (70) square feet;
(b) a ceiling height of no less than seven (7) feet;
(c) an approved electrical service and appropriate ventilation, as required by 105 CMR 410.000; and
(d) at least one (1) window.
in addition to the above requirements, the following rooms shall not be considered bedrooms:

   living rooms, dining rooms, kitchens, halls, bathrooms, unfinished cellars, unheated storage areas over garages, and any habitable room (as defined in 105 CMR 410.000) where all openings to other rooms / hallways are at least eight (8) feet in width (so as to not permit the installation of door[s]).

**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.

**Board:** The Board of Health of the Town of Cohasset, Massachusetts or its authorized Agent.

**Business of Digging or Drilling:** A person who charges a fee for digging or drilling a well, or a person who advertises for hire to dig or drill wells within MA.

**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:** A laboratory certified by the MassDEP for the analysis of drinking water and required water quality analytes. Provisional certification is acceptable.

**Certified Well Driller:** Any person certified with the MassDEP Well Driller Program to dig or drill wells in MA.

**Concrete:** A mixture consisting of Portland cement (ASTM Standard C150, type I or API Standard 10, Class A), sand, gravel, and water in a proportion of not more than five parts of sand plus gravel to one part cement, by volume, and not more than six gallons of water. One part cement, two parts sand, and three parts gravel are commonly used with up to six gallons of water.

**Feasible:** As far upgradient of possible pollution sources as possible without violating any of the setback requirements listed in Section VI of this regulation, and also providing sufficient area for drilling equipment to have access to the proposed location.

**Irrigation Well:** Well used for the sole purpose of watering or irrigation. The well shall not be connected at any 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.

**MA:** The Commonwealth of Massachusetts

**MassDEP:** The MA Department of Environmental Protection.

**Neat Cement Grout:** A mixture consisting of one bag (94 pounds) of Portland cement (ASTM Standard C 150, Type I or API Standard 10, Class A) to not more than six gallons of clean water. Bentonite (API Standard 13A), up to two percent by weight of cement, shall be added to reduce
shrinkage. Other additives, as described in ASTM Standard C494, may be used to increase fluidity and/or control setting time.

New Construction: The construction of a new building (for which an occupancy permit is required), roadway, structure, or other condition which was not present prior to the installation of a Private Well.

Owner: A Person who, alone or together with other persons, has legal title to a parcel of land and/or structure upon which a Private Well is currently located, or proposed to be located.

Permit: A well construction permit.

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

Potable Water Supply: All water intended for human and/or animal consumption.

Private Drinking Water Well: Any dug, driven, or drilled hole, with a depth greater than its largest surface diameter constructed or used to supply water for human consumption that is not regulated by 310 CMR 22.00.

Private Well: Any Irrigation Well or Private Drinking Water Well.

Pumping (Aquifer) Test: A procedure used to determine the characteristics of a well and adjacent aquifer by installing and operating a pump.

Sand Cement Grout: A mixture consisting of Portland cement (ASTM Standard C150, Type I or API Standard 10, Class A), sand, and water in the proportion of one part cement to three or four parts sand, by volume, and not more than six gallons of water per bag (94 pounds) of cement. Up to five percent, by weight of bentonite (API Standard 13A) shall be added to reduce shrinkage.

Shared Private Well: A Private Well that services more than one (1) property or structure, but is not subject to compliance with 310 CMR 22.00.

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

Structure: 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.

Well Driller Regulation: The MassDEP Well Driller Program Regulations (310 CMR 46.00).

IV. WELL CONSTRUCTION PERMIT

a. A Certified Well Driller shall obtain a permit from the Board prior to the commencement of construction of a Private Well.

b. Each permit application shall include the following:
i. the Owner’s name and address;
ii. the Certified Well Driller’s name and proof of valid MA certification;
iii. a plan with a scale of one-quarter (1/4) inch per foot, signed and stamped by a MA-licensed Professional Land Surveyor or MA-licensed Professional Engineer, showing the location of the proposed well in relation to all existing and proposed above- and belowground structure(s), as well as the latitude and longitude of the proposed Private Well;
iv. a description of all prior and current land uses, located within two-hundred (200) feet of the proposed well location, which represent(s) a potential source(s) of contamination, including, but not limited to:
   - existing and proposed structures;
   - existing and abandoned on-site wastewater treatment systems (septic systems);
   - subsurface chemical and fuel storage tanks;
   - above-ground chemical and fuel storage tanks;
   - public and private ways (both physical streets and paper streets);
   - utility rights-of-way;
   - current recorded easements; and
   - any other potential sources of pollution.

v. The owner(s) of all properties within one hundred (100) feet of the property line must be notified by certified mail (return receipt requested) or in person. A new well could potentially impact the ability of abutting property owners with septic systems to meet setback requirements to a drinking water source. Said notification shall:
   - Be in writing on a form approved by the Board;
   - All required parties must be notified at least ten (10) calendar days prior to commencement of any construction;
   - If served in person, the abutter receiving the notice must sign the original notification form. Said Person receiving notice (in person) must be at least eighteen (18) years old at the time that notice is given, and must be listed on the deed, as recorded in the Norfolk County Registry of Deeds or the Land Court. If the Owner is an artificial person (i.e., a corporation, LLC or partnership), the Person receiving notice shall be a person duly authorized to accept legal notices on behalf of the Owner.
   - If an Affected Party is somehow aggrieved by the proposed well, (s)he must submit a request, in writing, for a hearing by the Board, in accordance with Section XII of this regulation.

vi. A permit fee, as listed on the Cohasset Board of Health Fee Schedule.

c. The Permit shall be on site at all times that work is taking place.

d. Each permit shall expire one (1) year after the date of issuance, unless revoked or suspended for cause, or extended. Permit(s) may be extended for up to one (1), six (6) month period, provided that a written explanation for the request is received by the Board prior to the
original expiration date, and following payment of a Well Construction Permit Extension Fee, as listed on the Cohasset Board of Health Fee Schedule.

e. Permits are not transferrable.

V. WATER SUPPLY CERTIFICATE

a. The issuance of a Water Supply Certificate by the Board shall certify that the Private Well may be used as a drinking water supply, as described by 105 CMR 410.180. If used as a Private Drinking Water Well, a Water Supply Certificate must be issued for the use of the Private Drinking Water Well prior to the issuance of a Certificate of Occupancy (or any other occupancy permit) for an existing structure or prior to the issuance of a building permit for New Construction that is to be served by the Private Drinking Water Well.

b. All Private Drinking Water Wells in existence prior to the Effective Date of this regulation shall obtain a Water Supply Certificate within three (3) years of the Effective Date of these regulations.

c. All Private Drinking Water Wells, including those that were in existence prior to the Effective Date of this regulation, shall comply with the Water Quality Testing requirements of Section IX of these regulations within three (3) years of the Effective Date of these regulations.

d. The following must be submitted to the Board in order to obtain a Water Supply Certificate:

   i. a well construction permit;
   ii. a copy of the Water Well Completion Report, as required by the Well Driller Regulation;
   iii. a copy of the Pumping Test Report, as required by Section VIII of these regulations;
   iv. a copy of the Water Quality Report, as required by Section IX of these regulations; and
   v. a Water Supply Certificate processing fee, as listed on the Cohasset Board of Health Fee Schedule.

   EXCEPTION: a Private Drinking Water Well in existence prior to the Effective Date of this regulation needs only to submit items iii – v listed above in order to obtain a Water Supply Certificate.

e. Upon receipt of the above documents, the Board shall commence reviewing the sufficiency, completeness, and accuracy of the above documents. Approval shall be granted or denied within thirty (30) calendar days after the submission of the above documents. If the Board does not deny, or request additional information / documentation within thirty (30) calendar days of submission, the Water Supply Certificate shall be presumed to be approved.

f. Following the review of the above documents, the Board shall issue a determination on the application for a Water Supply Certificate. The determination shall be in writing and shall comprise one (1) of the following actions:
i. issuance of a Water Supply Certificate;
ii. Denial of a Water Supply Certificate, citing specific reasons for the denial; or
iii. Issuance of a Conditional Water Supply Certificate with those conditions, which the Board deems necessary to ensure the fitness, purity and quantity of the water derived from the affected Private Well. Said conditions may include, but not be limited to, required additional treatment of the finished product (prior to entering the Potable Water Supply) and/or additional testing of the water.

g. One issued, a Water Supply Certificate shall remain valid as long as the water complies with the testing and documentation submission requirements listed in Section IX.

VI. WELL SITING

a. Whenever feasible, Private Wells shall be located upgradient of all possible sources of contamination, and shall be as far away from potential sources of contamination as possible, given the layout of the property.

b. Unless a Private Well was in existence prior to the Effective Date of these regulations, no Private Well shall be permitted for use unless it meets the following setback requirements:

   i. Property line: 10 feet
   ii. Public or private roadways: 25 feet
   iii. Public or private right-of-way: 15 feet
   iv. Building sewer line or septic tank: 50 feet
   v. Soil absorption system or cesspool: 100 feet
   vi. Dry well: 100 feet
   vii. Stable, barnyard, manure storage: 100 feet
   viii. Power line or overhead distribution line: 15 feet
   ix. Above-ground chemical and fuel storage tanks: 100 feet
   x. Subsurface chemical and fuel storage tanks: 100 feet
   xi. Any surface water, including but not limited to wetlands: 100 feet
   xii. Any other potential source of contamination not listed above: listed as a condition on the Well Construction Permit

c. Each Private Well shall be located so that it is accessible for repair, maintenance, testing, and inspection. Unless impossible to site a Private Well on a property without the use of an easement, no Private Well shall be sited beyond the property line for the structure being served by the Private Well.

   Exception: if the proposed well is a Shared Private Well, it shall be sited and operated in accordance with the Shared Private Well provisions of this regulation.

d. The well shall be completed in a water-bearing formation that will produce the required volume of water under normal operating conditions.
e. Water supply lines shall be installed at least ten (10) feet from and eighteen (18) inches above any sewer line. Whenever water supply lines cross sewer lines, both lines shall be constructed of Class 150 pressure pipe and shall be pressure tested to assure water tightness.

f. 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.

VII. SHARED PRIVATE WELLS

a. Any application for a Shared Private Well shall include the following:
   i. a proposed operation and maintenance (O&M) plan for the Shared Private Well;
   ii. a description of the form of ownership which each component of the Shared Private Well, together with relevant legal documentation describing or establishing that ownership, including, without limitation, easements, condominium master deed, or homeowners’ association documents. All forms of private ownership of the Shared Private Well shall establish that each user of the system has the legal ability to accomplish any necessary maintenance, repair, or upgrade of the Shared Private Well;
   iii. a description of the financial assurance mechanism proposed to ensure effective long-term operation and maintenance of the Shared Private Well. Acceptable financial assurance mechanisms may include, but are not limited to, an escrow account, letter of credit, performance bond, or insurance policy, which names the Board as a beneficiary, and which provides for upgrade or replacement of the Shared Private Well (or connection to a Public Water Supply) in the event the Shared Private Well becomes contaminated or must be decommissioned. A copy of the final financial assurance mechanism shall be provided to the Board prior to the construction of the Private Well; and
   iv. any other conditions which the Board may impose on the use of the Shared Private Well.

VIII. WATER QUANTITY AND PUMPING TEST

a. In order to demonstrate that the well capacity can provide the required volume of water, a pumping test shall be conducted, prior to the issuance of a Water Supply Certificate, in the following manner, using whatever rate is desired:
   i. Determine the volume necessary to support the household’s daily need, using the following formula:
      \[ (\text{number of bedrooms} + 1) \times (110 \text{ gallons per day per bedroom}) \times (\text{safety factor of } 2) \]
      \[ = (\text{household’s daily need, in gallons per day}) \]
   ii. The storage capacity of the well shall be determined using the measured Static Water Level and the depth and radius of the drill-hole or casing;
   iii. The required volume shall be calculated by adding the volumes of water required in i. and ii. above, which equates to the volume of water that must be pumped from the well within a twenty-four (24) hour period.
b. Following the pumping test, the water level in the well must be shown to recover to within eighty-five (85) percent of the pre-pumped Static Water Level within a twenty-four (24) hour period.

c. The Applicant shall submit a Pumping Test Report to the Board for review and approval.

d. The Pumping Test Report shall include, at a minimum:

i. the name and address of the well owner;

ii. a description of the well location, referencing at least two (2) permanent structures or landmarks, no greater than seventy-five (75) feet away from the center-point of the top of the well;

iii. date and time that the pumping test was performed;

iv. depth (in feet) at which the pump was set for the test;

v. elevation at which the pump was set for the test;

vi. location of the discharge line;

vii. Static Water Level immediately before pumping commenced;

viii. discharge rate of the pump;

ix. if applicable, the time at which the discharge rate changed;

x. pumping water levels and respective times after pumping commenced;

xi. maximum draw-down during the test;

xii. duration of the test, including both pumping time and the recovery time during which measurements were taken;

xiii. recovery water levels and respective times after cessation of pumping; and

xiv. a reference point used for all measurements

e. Examples of calculations to determine the minimum pumping (and recovery) requirements performed as part of the pumping test are:

Example 1: a one bedroom house with a well six (6) inches in diameter containing 200 ft. of standing water:

1) \( 1 \text{ bedroom} + 1 \text{ bedroom} = (2 \text{ bedrooms}) \times (110 \text{ gallons per bedroom}) \times (\text{ safety factor of 2}) = 440 \text{ gallons needed daily.} \)

2) \( \text{the volume of a 6-inch well is 1.5 gallons for every foot of water column length. Therefore, (200 ft. of standing water) x (1.5 gal/ft.) = 300 gallons.} \)

3) \( 440 \text{ gallons} + 300 \text{ gallons} = 740 \text{ gallons that must be pumped from the well in 24 hours or less to demonstrate suitable capacity. Recovery to at least 85% of the static water level must also occur within 24 hours after cessation of pumping.} \)

Example 2: For a 4 bedroom house with a well that is six (6) inches in diameter containing 100 ft. of standing water:

1) \( 4 \text{ bedroom house} + 1 \text{ bedroom} = (5 \text{ bedrooms}) \times (110 \text{ gallons per bedroom}) \times (\text{ safety factor of 2}) = 1,100 \text{ gallons needed daily.} \)
2) the volume of a 6-inch well is 1.5 gallons for every foot of water volume length. Therefore, (100 ft. of standing water) x (1.5 gal/ft.) = 150 gallons.

3) $1,100 \text{ gallons} + 150 \text{ gallons} = 1,250 \text{ gallons}$ that must be pumped from the well in 24 hours or less to demonstrate suitable capacity. Recovery to at least 85% of the static water level must also occur within 24 hours after cessation of pumping.

IX. WATER QUALITY TESTING

a. After the construction or alteration of the well has been completed and disinfected, and prior to initiating its use as a Private Drinking Water Well, baseline water quality testing shall be conducted for all of the recommended parameters listed in the MassDEP Parameters and Testing Frequency for Private Wells, as amended (http://www.mass.gov/eea/agencies/massdep/water/drinking/private-wells.html), as well as any others that the Board may require.¹

b. Prior to selling, conveying, or transferring title to real property, the Owner shall have tested the water of every Private Drinking Water Well serving the property. A water sample from each well shall be submitted to a Certified Laboratory for testing for the following parameters for compliance with the MCLs established in the MassDEP Parameters for testing Frequency for Private Wells (http://www.mass.gov/eea/agencies/massdep/water/drinking/private-wells.html):

i. 
- Arsenic
- Chloride
- Copper
- Hardness
- Iron
- Lead
- Manganese
- pH
- Sodium
- Total Coliform bacteria
- E. coli bacteria
- Nitrate and Nitrate

ii. This water quality testing shall have been performed not more than three (3) years prior to the transfer of the property.

¹ Although not required, it is recommended that irrigation wells be tested periodically for total and fecal coliform as well as heavy metals. These tests are recommended to prevent potential exposure to bacterial contaminants and to understand if there is a potential for staining within irrigated areas from naturally occurring iron and manganese.
iii. Results of the Water Quality Testing shall be submitted to the Board prior to property transfer.

iv. The owner shall give copies of all available water quality test results of which (s)he has knowledge (regardless of age of results) for the Private Well(s) 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 placed under agreement.

c. A water sample shall be collected either after purging three (3) 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.**

d. Water quality testing, utilizing applicable US EPA approved methods for drinking water sampling and testing, shall be conducted by a Certified Laboratory and shall include an analysis for all of the recommended parameters listed in the MassDEP Parameters and Testing Frequency for Private Wells, as amended (http://www.mass.gov/eea/agencies/massdep/water/drinking/private-wells.html), as well as any others that the Board may require.

e. The Owner of every well used for Private Drinking Water Well, including those serving a property which is rented or leased, shall have its water tested at a Certified Laboratory for the parameters listed above at frequencies **no less than the following:**

<table>
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<tr>
<th>Parameter</th>
<th>Drinking Water</th>
<th>Irrigation</th>
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<tr>
<td>i. Inorganic Compounds, except for Nitrate and Nitrite:</td>
<td>12 years</td>
<td>12 years</td>
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<tr>
<td>ii. Total Nitrate and Nitrite:</td>
<td>3 years</td>
<td>12 years</td>
</tr>
<tr>
<td>iii. Turbidity:</td>
<td>3 years</td>
<td>n/a</td>
</tr>
<tr>
<td>iv. Synthetic Organic Compounds:</td>
<td>12 years¹</td>
<td>n/a</td>
</tr>
<tr>
<td>v. Bacteria (total coliform bacteria and <em>E. coli</em>)</td>
<td>3 years²,³</td>
<td>3 years</td>
</tr>
<tr>
<td>vi. Radionuclides (except uranium and Radium-226 &amp; 228)</td>
<td>12 years⁴</td>
<td>12 years⁴</td>
</tr>
<tr>
<td>vii. Volatile Organic Compounds:</td>
<td>12 years</td>
<td>12 years</td>
</tr>
<tr>
<td>viii. Secondary Standards</td>
<td>12 years</td>
<td>n/a</td>
</tr>
<tr>
<td>ix. Other parameters not listed</td>
<td>as required by the Board</td>
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¹ Perform a monitoring screen using EPA Method 505 or 508. If contaminants are detected in the screen, then testing is required for the remaining parameters listed.

² If the property is rented or leased, bacterial testing must be performed annually.

³ If Gross Alpha is greater than 5 pCi/l, then test for Radium-226 and Radium-228. If Gross Alpha is greater than 15 pCi/l, then test for Uranium

d. The Board reserves the right to require re-testing of the above parameters, or testing for additional parameters when, in the opinion of the Board, it is necessary due to local conditions for the protection of public health, safety, welfare and the environment. All costs
and laboratory arrangements for the water testing are the responsibility of the Applicant and/or Owner.

g. Within seven (7) calendar days of receiving the results of water quality testing, the Owner shall submit a Water Quality Report to the Board, which includes:

i. a copy of the Certified Laboratory’s test results;
ii. the name and contact information (company name, address, and phone number) of the individual who performed the sampling; and
iii. the location in the system where the water sample was obtained.

h. The owner of a rental property shall make results of all water quality tests available to all tenants of the property.

i. In cases where the Private Drinking Water well water does not meet the water quality standards outlined above, the Board reserves the right to require the Owner to provide an alternative approved source of drinking water for the tenants and/or occupants, to install treatment facilities designed to bring the drinking water into compliance with the referenced parameters, and/or to re-test the water at the Owner’s expense.

X. WELL CONSTRUCTION

a. Pursuant to 310 CMR 46.02(1), no person in the business of digging or drilling shall construct a well in the Town of Cohasset unless (s)he is a Certified Well Driller.

b. Any work involving the connection of the Private Well to the distribution system of the residence shall conform with the State and local plumbing code(s).

c. Dug wells shall be prohibited in the Town of Cohasset, unless they were in existence prior to the Effective date of this regulation.

d. All electrical connections between the well and the pump controls and all piping between the well and the storage and/or pressures tank in the house must be made by a pump installer or a Certified Well Driller, including the installation of the pump and appurtenance(s) in the well or house.

e. A physical connection is not permitted between the water supply provided by the Private Well and another water supply that does not meet the requirements of these regulations without prior approval of the Board.

f. General Well Design and Construction

i. All Private Wells shall be designed and constructed such that:
• the materials used for the permanent construction are durable in the specific hydrogeologic environment that occurs at the well site; and
• no unsealed opening is 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.

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

iii. 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.

iv. Well construction design shall ensure that surface water does not enter the well through the opening or by seepage through the ground surface.

v. Construction site waste and materials shall be disposed of in such a way as to avoid contamination of the well, any surface water or the aquifer.

vi. 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 and/or the introduction of foreign material into the well.

vii. 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.

• Water from wetlands, swamps, ponds and other similar surface features shall not be used.
• Water shall be conveyed in clear sanitary containers or water lines and shall be chlorinated to an initial concentration between 50 mg/l and 100 mg/l.

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

ix. All drilling fluids shall be non-toxic.

x. 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.

xi. Surfactants shall be biodegradable. The use of biodegradable organic polymers shall be avoided, whenever possible.

xii. All wells, including those that have been hydrofractured, shall be designed and constructed in order to remove fine materials introduced into the pore spaces of the
fracturing during construction. One or more of the following methods shall be used for development:

- overpumping;
- backwashing;
- surging;
- jetting; or
- air-lift pumping

xiii. 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 pump.

g. Well Casing

i. Private Drinking Water Wells shall be constructed using either steel or thermoplastic well casing. Said 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.

ii. All casing used in the construction of Private Wells shall be free of pits, breaks, gouges, deed scratches and other defects. If previously used casing is installed, it shall be decontaminated and disinfected prior to installation.

iii. Installation of the 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.

iv. A standard drive shoe 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 forged, cast, or fabricated for this specific purpose.

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

vi. Well casing shall not be cut off below the land surface unless a pitless adapter or a pitless unit is installed or an abandoned well is being permanently plugged.

vii. Well casing terminating above-ground shall extend at least twelve (12) inches above the predetermined ground surface at the wellhead, except when the Private Well is located in a floodplain.

viii. When a Private Well is located in a floodplain, the well casing shall extend at least two (2) feet above the level of the highest recorded flood.

ix. The top of the well casing shall be reasonably smooth and level.
h. Well Screen

i. A well screen is required for drilled wells that are completed in unconsolidated formations.

ii. All well screens shall be of Grade 304 stainless steel.

iii. Wells completed in bedrock do not require a screen, unless the bedrock formation is brittle in nature, or has a potential to collapse.

iv. The well screen aperture openings, screen length, and diameter shall be selected so as not to limit the aquifer’s water yielding characteristics while preventing access of soil particles that would detract from well efficiency and yield.

i. Grouting and Sealing

i. Private wells drilled in bedrock shall be grouted from the ground surface or to the bottom of the pitless adapter (if present) to fifteen (15) feet into competent bedrock.

ii. Neat Cement Grout, Sand Cement Grout, or Bentonite Grout shall be used.

iii. Grout shall have a permeability of at least $1 \times 10^{-7}$ and be emplaced using standard grouting techniques, as described in the MassDEP Private Well Guidelines, as amended (http://www.mass.gov/eea/agencies/massdep/water/drinking/private-wells.html)

iv. All Private Wells completed with the casing extending above ground 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.

- if provided, the surface seal shall extend to a depth below the local frost line (a minimum of four [4] feet below grade).

j. Wellhead Completion

i. All wells shall be equipped with a sanitary seal or watertight cap designed to prevent surface water and foreign matter from entering the well.

ii. All wells except, flowing artesian and dug wells, shall be vented. Said vent pipe shall:

- have an opening covered with a twenty-four (24) mesh, corrosion-resistant screen;
- 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; and
- shall terminate in a downward position at or above the top of the casing.
iii. 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, or its successor.

iv. Above-grade connections into the top or side of a well casing shall be at least twelve (12) inches above the established ground surface or two (2) feet above the level of the highest known flood, whichever is higher.

v. Above-grade connections shall be sealed so that they are watertight.

vi. 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.

k. Disinfection

i. Upon completion of well construction, the well driller shall disinfect the well. If a pump is to be installed immediately upon completion of the well, the pump installer shall disinfect the well and the pumping equipment after the pump has been installed.

ii. If the pump is not installed upon completion of the well, the pump installer shall, upon installation, disinfect the well and the pumping equipment. The pump installer shall also disinfect the entire water supply system immediately after any maintenance or repair work is done on the pump.

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

iv. For newly constructed or altered Private Wells, the chlorine concentration used to disinfect the well shall be 100 mg/l throughout the entire water column. Upon installation of the pump, the well, the pumping equipment, and the distribution system, if connected, shall be disinfected with a chlorine concentration of 100 mg/l throughout the entire water column, and shall be performed in accordance with American Water Works Association (AWWA) Standard C651: Water Main Disinfection, as amended.

v. The disinfectant solution shall remain undisturbed in the well for a minimum of three (3) hours.

vi. After all the chlorine has been flushed from the water supply system, a water sample shall be collected and submitted to a Certified Laboratory, and tested in accordance with Section IX of these regulations.

vii. Only Certified Well Drillers are authorized to physically alter, or repair, a Private Well.

viii. For wells that have undergone repair, a sample shall be tested by a Certified Laboratory for bacteria, using the standards set in Section IX of these regulations, prior to being put back in use.
XI. **DECOMMISSIONING**

a. Abandoned wells, test holes, and borings shall be decommissioned so as to prevent the well, including the annular space outside the casing, from being a channel allowing the vertical movement of water.

b. The Owner of a Private Well shall immediately decommission the well if any of the following criteria are met:
   
i. construction of the well is terminated prior to the completion of the well;
   
ii. the Owner notified the Board that the use of the well is to be permanently discontinued;
   
iii. the well has been out of service for at least three (3) years;
   
iv. the well is a potential hazard to public health or safety and the situation cannot be corrected;
   
v. the well is in such a state of disrepair that its continued use is impractical or unsafe; or
   
vi. the well has the potential for transmitting contaminants from the land surface into an aquifer or from one (1) aquifer to another, and the situation cannot be corrected.

c. The property owner shall ensure that that all abandoned wells and test holes or borings associated with the well installation are properly plugged before work at the site is completed.

d. Only Certified Well Drillers may plug abandoned wells, test holes, and borings.

e. Abandoned overburdened wells or borings shall be completely filled with low permeability grout, which cures with a final permeability of less than $1 \times 10^{-7}$ cm/sec.

f. Wells shall be plugged with Neat Cement Grout, Sand Cement Grout, Concrete, or Bentonite Grout.

g. Regardless of the type of grout used, the grout used for plugging shall:
   
i. be sufficiently fluid so that it can be applied though a tremie pipe from the bottom of the well upward;
   
ii. remain as a homogenous fluid when applied to the subsurface, rather than disaggregating by gravity into a two-phase substance;
   
iii. be resistant to chemical or physical deterioration; and
   
iv. not leach chemicals, either organic or inorganic, that will affect the quality of the groundwater where it is applied.

h. The plugging materials shall be introduced at the bottom of the well or boring and placed progressively upward to a level approximately four (4) feet below the ground surface.

i. Sealing materials shall not be poured from the land surface into the well, borehole, or annular space being sealed.
j. The well driller shall install a surface seal after the well or boring has been plugged. Before the surface seal is placed, casing remaining in the hole shall be cut off. The remaining four (4) feet at the top of the well or boring shall then be filled with concrete.

k. The top of the seal shall comprise a concrete slab above the top of the plugged well or boring. This concrete slab shall be at least six (6) inches thick and shall be at least two (2) feet greater in diameter than the well casing or borehole wall.

XII. ENFORCEMENT

a. The Board has authority to investigate suspected or known violations of these regulations and/or violations of any Water Supply Certificate conditions. The Board may take actions, as it deems appropriate, within its authority for the protection of public health, safety welfare, or the environment, and to enforce any of the provisions of this regulation.

b. If any investigation reveals a violation of these regulations or the Water Supply Certificate Conditions, the Board may order the private well owner to comply with the violated provision(s), and/or take other action within its authority as the Board deems appropriate, including, but not limited to, suspension or revocation of the Water Supply Certificate and condemnation of the property, pursuant to 105 CMR 410.000 et seq.

c. Any order issued by the Board shall be in writing and served in the following manner:
   i. personally, by the Agent or any person authorized to serve civil process;
   ii. by the Agent or any person authorized to serve civil process, by leaving a copy of the order at the Owner’s address;
   iii. by sending the Owner a copy of the order by registered or certified mail, return receipt requested; or
   iv. If the Owner’s last and usual place of residence is unknown or outside of MA by posting a copy of the order in a conspicuous place on or about the premises and by advertising it for at least three (3) out of five (5) consecutive days in one or more newspapers of general circulation within the municipality where the Private Well is located.

XIII. HEARING

a. Any person to whom the Board issues an Order may request a hearing before the Board by filing with the Board within seven (7) days after the day the Order was served a written request for a hearing.

b. Upon receipt of a hearing request, the Board shall set a time and place for the hearing and shall inform the well owner in writing.
c. The hearing shall commence within thirty (30) days from the day on which the written request was made, unless a later time is agreed to in writing by the Board and the person requesting the hearing.

d. At the hearing, the person requesting the hearing shall be given an opportunity to be heard and show why the Order should be modified or withdrawn.

e. After the close of the hearing, the Board shall issue a written decision to sustain, modify, or withdraw the Order and shall mail a copy of the decision, by certified mail, return receipt requested, to the person who requested the hearing.

f. If the Board sustains or modifies the Order, it shall be carried out within the time period allotted in the original order or in the modification.

g. Every notice, order, or other record prepared by the Board in connection with the hearing shall be entered as a matter of public record in the office of the clerk of the city or town, or in the office of the Board.

h. If a request for a hearing is not filed with the Board within seven (7) days after the day an Order has been served or if after a hearing, the Order has been sustained in whole or any part, each day's failure to comply with the order as issued or sustained shall constitute a separate violation.

XIV. **APPEAL**

a. Any person aggrieved by an Order, Variance, Well Construction Permit, or Certificate of Water Supply determination of the Board may appeal to any court of competent jurisdiction as provided by the laws of MA.

XV. **PENALTIES**

a. Any person who violates any provision of these regulations, or who fails to comply with any Order of the Board, for which a penalty is not otherwise provided in any of the Massachusetts General Laws, shall upon conviction be fined not less than ten (10), nor more than five hundred (500) dollars. Each day's failure to comply with an Order or any provision of this regulation shall constitute a separate violation.

XVI. **VARIANCE**

a. The Board may, grant a variance to any provision of this regulation when, in its opinion, the strict enforcement would result in manifest injustice, and the applicant has demonstrated that the equivalent degree of protection will be provided without strict application of the particular provision(s) sought to be varied.
b. Every request for a variance shall be in writing shall state the specific provision of this regulation from which variance is sought, the reasons for seeking the variance and proof of the notice required below.

c. The request shall also contain the information to establish manifest injustice and equivalent degree of protection.

d. At least ten (10) days prior a hearing regarding an application for a Variance to the Board, the Applicant shall provide notice of their intent to request a variance, as follows:

  i. by certified mail, return receipt requested to all abutters within one hundred (100) feet of the property line of the property upon which the well will be, or is, located; and
  ii. publication in both the Cohasset Mariner and the Patriot Ledger.

e. The aforementioned notice shall include, at a minimum:

  i. the name and address of the Applicant;
  ii. a statement of the provision(s) of this regulation from which a variance is sought; and
  iii. the reason for seeking the variance(s).

f. A copy of each variance shall be conspicuously posted for thirty (30) days following its issuance, and shall be available to the public at all reasonable hours in the Office of the Town Clerk or the Office of the Board of Health.

g. Within the thirty (30) days after issuance of the variance, an Affected Party may file an appeal of the decision to issue a variance, pursuant to Section XIV of these regulations. If an appeal of a variance is filed, no work shall be commenced until the court of competent jurisdiction makes a final determination, or the appellant abandons the appeal.

h. No work shall be done under a variance until thirty (30) days from its issuance, unless the Board certifies, in writing, that an emergency exists.

i. The Board may issue a variance subject to conditions as it deems necessary to public health, safety, welfare or the environment. Any such conditions shall be stated, in writing, in the Board's grant of the variance.

j. The Board may revoke, modify or suspend, in whole or in part, a variance after the Owner has been notified, in writing, and is afforded an opportunity to be heard, pursuant to Sections XII and XIII of these regulations.

XVII. SEVERABILITY

If any provision of these regulations or the application thereof is held to be invalid by a court of competent jurisdiction, the invalidity shall be limited to said provision(s) and the remainder of these regulations shall remain valid and effective. Any part of these regulations subsequently invalidated by a new state law or modification of an existing state law shall
originally be brought into conformity with the new or amended law and shall be deemed
to be effective immediately, without recourse to a public hearing and the customary
procedures for amendment or repeal of such regulation.

XVIII. EFFECTIVE DATE

a. These regulations were adopted by vote of the Town of Cohasset Board of Health, at their
regularly scheduled meeting held on December 18, 2018 and are to be in full force and effect
on and after December 18, 2018. These regulations shall supersede all previous versions of
similar regulations promulgated by the Cohasset, Massachusetts Board of Health.

b. A copy of these regulations shall be published and a copy placed on file in the Board of
Health Office and filed with the MA Department of Environmental Protection, Division of
Wastewater Management in Boston.

c. These regulations or any portions thereof may be amended, supplemented or repealed from
time to time by the Board, as provided by law and applicable regulations.

XIX. DISCLAIMER

The issuance of a Well Construction Permit, or a Water Supply Certificate, shall not be
construed as a guarantee or certification by the Board or its agents that the water system will
function satisfactorily or that the water supply will be of sufficient quality or quantity for its
intended use.

Signed, this 18th day of December in the year 2018:
automatically be brought into conformity with the new or amended law and shall be deemed to be effective immediately, without recourse to a public hearing and the customary procedures for amendment or repeal of such regulation.

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SIGNED, THIS 18TH DAY OF DECEMBER IN THE YEAR 2018:

[Signature]
Robin Lawrence, DDS, MPH, Chairman

[Signature]
Lynn Doxey, MPH, Vice Chair

[Signature]
Michael Pollastri, PhD, Clerk

Cohasset Board of Health Private Well Regulations – December 18, 2018 REVISED