

STOUGHTON BOARD OF HEALTH WELL REGULATIONS

1:00

PURPOSE AND AUTHORITY

The Board of Health of the Town of Stoughton, acting under authority of Chapter 111, Section 31 of the Massachusetts General Laws and every other act thereto enabling, hereby establishes the following rules and regulations for potable and non-potable water supply wells for the Town of Stoughton.

2:00

WELL CONSTRUCTION PERMITS

2:01

A well construction permit shall be obtained from the Board of Health prior to the construction of any private well. Wells regulated by the Department of Environmental Protection (DEP), under the Mass Drinking Water Regulations (310 CMR 22.00) are exempt.

2:02

An application for a well construction permit shall be submitted by a Well Driller registered with the Department of Environmental Management, or his agent to the Stoughton Board of Health or its agent on forms furnished by the Board. The well driller is responsible for obtaining said permit prior to well construction.

2:03

An application for a well construction permit for a drilled well shall be submitted to the Board of Health or its authorized agent and must be accompanied by a site plan stamped by a Registered Professional Engineer or Registered Land Surveyor, showing the well location, lot dimensions, existing and proposed structures, and location of any potential source of pollution within 100' of the lot. A permit so granted shall expire two years from the date of issue unless otherwise revoked for cause.

2:04

When submitting an application for a driven well, the required site plan need not be professionally stamped and may be hand-drawn, however, the proposed location must be staked on the lot for verification by Board of Health staff. Any deviation from the staked location must be approved.

2:05

Fees – A fee of \$25.00 for the issuance of each well construction permit may be charges by the Board of Health at the time an application is made for this permit.

2:06 Inspections – The Board of Health or its authorized agent may inspect the installation of the well and may at any stage of construction, require necessary modifications if conditions encountered are different than those originally proposed.

3:01 Dug wells will not be permitted.

3:02 Driven wells will not be permitted for use as potable water supplies.

3:03 Minimum Lateral Distances – Each well shall be located at a minimum of 100' from a subsurface sewage disposal area (including reserve areas).

50' from a septic tank;

10' from a building sewer constructed of durable corrosion resistant material with watertight joints or;

50' from a building sewer constructed of any other type of pipe;

25' from a property line;

25' from a street layout;

50' from other wells;

25' from subsurface drains;

100' from underground oil tanks and gasoline tanks, underground oil distribution lines and;

25' from the normal high water mark of any lake, pond, river, stream, ditch or slough;

10' from a dwelling or building;

10' from a permanently located swimming pool;

50' from any sewer main;

3:04 The Board may increase the distance listed in Subsection 3:03 and may impose minimum lateral distances from other potential sources of contamination when in its opinion, conditions warrant such protection. All such special location requirements shall be specified as a condition of the well construction permit. In certain cases special means of protection for a well may be required such as a

structure around a well near a driveway.

3:05

A well must be located on the lot which it serves and where possible, shall be located upgradient and as far removed as possible from all potential source of contamination.

3:06

The use of acids, enzymes, degreasers, bacteria, etc. shall not be introduced into a subsurface sewage disposal system on lots containing an on-site potable water supply.

4:00

PUMP TEST AND WELL YIELD

4:01

All wells shall be tested to determine yield and water level recovery. All tests shall be performed by a Registered Well Driller with all test records and analysis of safe yield sent to the Board of Health. Test pumping shall be conducted at a rate at least equal to the pumping rate expected during normal well use. The pump test for a potable well shall be conducted for a minimum of four hours. the Board of Health may also require additional testing.

4:02

MINIMUM YIELD – A drilled well installed for the purpose of providing potable water shall produce the following minimum capacities.

In order to demonstrate the capacity of the well to provide the Required Volume of water, a pumping test shall be conducted in the following manner:

(1) the volume of water necessary to support the household's daily needs shall be determined using the following equation:

(number of bedrooms plus one bedroom) X (110 gallons per bedroom) X (a safety factor of 2) + number of gallons needed daily.

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

(3) the Required Volume of Water shall be calculated by adding the volumes of water in (1) and (2). It is this volume of water that must be pumped from the well within a 24 hour period.

4:03

In all cases, wells used as a potable water supply

must yield a minimum of 2.5 gallons per minute.

4:04

No well used for a potable water supply shall be approved if the average vertical depth of storage in the well is less than 15' at the time of installation, or if the water level in the well fails to recover to eighty-five (85) percent of the prepumped static water level within a twenty four (24) hour period.

4:05

Installation of a water storage reservoir, excluding an approved water pressure tank, requires approval of the Board of Health or its agent.

4:06

No person shall use a sole well on the lot to be served to supply any subsurface automatic irrigation system in addition to all other domestic uses approved by the Board of Health without written permission of the Board.

5:00

WELL CONSTRUCTION

5:01

Well casing materials shall consist of not less than schedule 40 steel or not less than schedule 40 PVC plastic, or other material of adequate strength and durability, and shall be free of pits, breaks, gouges, deep scratches, or other defects. Well casing shall be installed with care to avoid damage. The entire length of casing above the intake shall be watertight. Well casings for drilled wells shall be a minimum of six (6) inches in diameter.

5:02

The top of the well casing or extension thereof shall extend 12" above established ground surface or above the floor of an approved pit or within a flood-proofed well house. Wells located in designated flood hazard area shall be constructed such that the well casing or extension thereof extends a minimum of 24" above the 100 year flood elevation.

5:03

Well Screens – well in unconsolidated formations shall be equipped with a properly sized screen, selected so as to prevent access of soil particles that would detract from well efficiency and yield.

5:04

Protection Seal at Land Surface – The annular space between the protective well casing and the wall of the drilled hole or the surface casing shall be effectively sealed using neat cement or sand cement grout emplaced using standard grouting techniques to a depth below the frostline in order to protect against contamination or pollution by surface and/or shallow, subsurface waters.

5:05	The land around the well is to be graded so that surface water does not pond over the well, and is not diverted over the well.
5:06	<p><u>Abandoned Wells</u>, i.e. those not in service for one year, those not intended for future use, or those which pose a potential hazard or health threat on the opinion of the Board of Health, shall be destroyed by removing, plugging or sealing by decommissioning to protect the groundwater. Wells out of use for an extended period of time shall be covered with a secured cap.</p> <p>Only MA Registered Well Drillers may plug abandoned well, Wells shall be plugged with neat cement grout, sand cement grout, concrete or bentonite grout. The grout shall be sufficiently fluid so that it can be applied through a tremie pipe from the bottom of the well upward, to a level approximately four feet below ground surface. Prior to the surface seal being placed, casing shall be cut off 6” – 12” below existing grade. The remaining depth of casing shall be filled with concrete. The top of the seal should comprise a concrete slab above the top of the plugged well or the boring.</p>
5:07	<u>Water Distribution Piping</u> – Shall be connected to a drilled well by means of a pitless adapter installed below the frostline but in no case closer than five feet from the finished grade. The water distribution piping shall be made of durable material and shall be located a minimum of 10 feet from and 18 inches above sewer lines.
5:08	<u>Cross Connection</u> – No person, corporation, or any other business shall allow a potable or non-potable well to be physically connected into the plumbing system of any structure serviced by the municipal water distribution system. Installation of any pipe from a potable or non-potable well into any structure serviced by the municipal water distribution system is prohibited without prior written approval of the Stoughton Water Department.
6:00	<u>WATER QUALITY</u>
6:01	<p><u>Disinfection and Other Sanitary Requirements</u> – All private wells shall be disinfected after construction, rehabilitation and well or pump repair before the well is placed in service. The well shall be pumped to waste until the water is as clear as possible.</p> <p>Thereafter the well and pumping equipment shall be disinfected with a solution containing at least 50 ppm of chlorine. The well shall remain in contact with the</p>

chlorine solution for minimum of 24 hours before the well is pumped to waste and chlorine flushed from the distribution system. All water used in drilling should be disinfected.

6:02

Well water from all drilled wells shall be sampled following development and disinfection. Chemical and bacteriological analysis shall be completed and approval of the Board of Health must be obtained before the well is used. Driven non-potable wells are not required to be tested but a sign must be clearly posted at the well stating "For Non-Potable Use Only".

6:03

Sampling – A representative sample of water shall be collected and analyzed by a laboratory certified by the Massachusetts Department of Environmental Protection and a bacteriological and chemical report shall be filed with the Stoughton Board of Health.

6:04

Bacterial Quality – Water samples for bacteriological analysis (coliform, standard plate count) shall be collected after purging three well volumes and after all traces of disinfectant chemicals have been removed from the well. The results of the bacteriological analysis shall meet the standards specified in 310 CMR 22.00 (Mass Drinking Water Regulations). A copy of the laboratory report is to be filed with the Board of Health.

6:05

Chemical Quality – All private wells shall be sampled and tested by a Massachusetts Certified Laboratory and shall meet the following standards.

<u>PARAMETER</u>	<u>LIMIT NOT TO BE EXCEEDED</u>
Color	15 Units
Turbidity	5 Units
Odor and Taste Free of Odor and Taste	Good
PH	6.5 – 8.5
Chloride	250 mg/1
Total Iron	0.3 mg/1
Sodium (guideline)	20 mg/1
Manganese	.05 mg/1
Sulfate	250 mg/1
Magnesium	125 mg/1
Total Hardness	100 mg/1
Nitrogen-Ammonia	0.1 mg/1
Nitrogen-Nitrite	1 mg/1
Nitrogen-Nitrate	10 mg/1
Free Carbon Dioxide	50 mg/1
Copper	1.0 mg/1
Lead	0.05 mg/1

Arsenic	0.05 mg/1
Alkalinity	100 mg/1
Calcium	150 mg/1
<u>VOC's:</u>	
Vinyl Chloride	0.002 mg/L (2 ppb)
Benzene	0.005 mg/L (5 ppb)
Carbon Tetrachloride	0.005 mg/L (5 ppb)
1,2 Dichlorethane	0.005 mg/L (5 ppb)
Trichloroethylene	0.005 mg/L (5 ppb)
para-Dichlorobenzene	0.005 mg/L (5ppb)
1,1 Dichloroethylene	0.007 mg/L (7ppb)
1,1,1 Trichloroethane	0.2 mg/L (200 ppb)
cis- 1,2-Dichloroethylene	0.07 mg/L (70 ppb)
1,2-Dichloropropane	0.005 mg/L (5 ppb)
Ethylbenzene	0.7 mg/L (700 ppb)
Monochlorobenzene	0.1 mg/L (100 ppb)
o-Dichlorobenzene	0.6 mg/ (600 ppb)
Styrene	0.1 mg/L (100 ppb)
Tetrachloroethylene	0.005 mg/L (5 ppb)
Toluene	1 mg/L (1,000 ppb)
trans-1,2-Dichloroethylene	0.1 mg/L 100 ppb)
Xylenes	10 mg/L (10,000 ppb)
Dichloromethane	0.005 mg/L (5 ppb)
1,2,4-Trichlorobenzene	0.07 mg/L (70 ppb)
1,1,2-Trichloroethane	0.005 mg/L (5 ppb)
Methyl-tertiary butyl ether(MTBE)	0.07 mg/L (70 ppb)

6:06 Treatment and Retesting – Treatment for PH, alkalinity, high iron, and/or manganese, calcium, and excessive hardness is allowed, however, a retest of the continued well water is required and must meet the criteria outlined in Sections 6.04 or 6.05 as applicable, prior to approval of the well.

6:07 Color, Turbidity, Odor and Taste, which does not meet the specified criteria must be retested after treatment and prior to approval of the well.

6:08 Sodium – Failure to meet the sodium level of 20 mg/1 specified in 6:05 does not constitute disapproval of the well. Sodium levels which exceed 20 mg/1 prior to conditioning will require the owner of the property to document and record at the Registry of Deeds, at the owner's expense, the sodium level(s) detected, the recommended sodium level of 20 mg/1, and statements notifying property owners of the recommendation of the American Heart Association regarding sodium intake for individuals placed on a dietary sodium restriction of 1 gram a day or less for health reasons by their physician.

6:09 Disapproval of Potable Well – Failure to meet all

standards with the exception of sodium, in 6:05 allowing for treatment of those parameters specified in 6:06 and 6:07, will require disapproval of the well as a source of potable water. Any drilled well which fails to meet potable standards, must be posted "FOR NON-POTABLE USE ONLY".

6:10 The Board may require testing for additional parameters when, in its opinion, it is necessary due to local conditions or for the protection of health, safety and welfare.

6:11 The Board recommends retesting private potable wells at least every three years, with annual testing preferable, for the parameters listed in section 6:05, to detect any changes in water quality.

7:00 **WELL REGISTRATION**

7:01 Property owner's must register all wells, potable and non-potable with the Board of Health.

7:02 Within thirty (30) days of the completion of a well constructed in accordance with an approved Well Construction Permit, a Well Water Completion Report must be submitted to the Board of Health as specified in 313 CMR 3.00. The property owner must notify the Board of Health when the well is operable and must submit the necessary well analysis and pump test.

7:03 Following review of analytical results, pump tests and all other pertinent information, an inspection will be made by the Board of Health or its agent(s) to verify the well location, construction, operation of the well pump, and any required posting.

7:04 A Well Registration Card – will be issued to the property owner by the Board of Health if the well location, construction, operation, water quality and posting meet the specifications as detailed in these regulations.

8:00 **ENFORCEMENT AND VARIANCE PROCEDURES**

8:01 Enforcement – The Board of Health or its agent(s) may enter upon privately owned property for the purpose of conducting inspections, investigating violations of these regulations and performing all other duties under these regulations.

8:02 Variance – The Stoughton Board of Health may, after a public hearing, vary the application of any provision

of this code with respect to any particular case, when in its opinion the enforcement thereof would do manifest injustice, and the applicant has proven that the same degree of environmental protection required under this code can be achieved without strict application of the particular provision.

a. Every variance shall be made in writing stating the specific variance sought and the reasons therefore. When the variance sought related to property setbacks as specified in Section 3.00, direct abutter(s) must be notified in writing by the applicant seven (7) days prior to the hearing at which time the request will be considered. The notice, a copy of which shall be provided to the Board of Health, shall state the variance sought the reason therefore, and the hearing date, time and place.

b. Any denial of a variance shall be made in writing and shall contain a brief statement of the reasons for the denial.

c. Any variance may be subject to such qualification revocation, suspension, or expiration as the Board of Health expresses in its grant. A variance authorized may otherwise be revoked, modified or suspended in whole or in part, only after the holder thereof has been notified in writing and has been given the opportunity to be heard.

8:03

Appeal – Any person aggrieved by the decision of the Board may seek relief, therefrom, within 30 days in any court of competent jurisdiction as provided by the laws of the Commonwealth.

8:04

Penalties – Any person, business, corporation, etc., who violates any provision of this code for which a penalty is not otherwise provided in any of the General Laws, or any other state or federal codes shall upon conviction be fined not less than \$20.00 nor more than \$500.00. Each day's failure to comply with this code shall constitute a separate violation.

8:05

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 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 procedure for amendment or repeal of such regulation

8:06

Effective Date – These regulations were adopted by vote of the Stoughton Board of Health, at their regularly scheduled meeting held on March 27, 1990 and are to be in full force and effect on and after APRIL 15, 1990 and as amended NOVEMBER 29, 1995. Before said date, these regulations shall be published and a copy thereof be placed on file in the Board of Health Offices and filed with the Department of Environmental Protection Division of Water Supply in Boston..

These regulations or any portions thereof may be amended, supplemented or repealed from time to time by the Board, with notice as provided by law, on its own motion or by petition.

8:07

Disclaimer – The issuance of a well permit shall not be construed as a guarantee by the Board of its agency that the water system will function satisfactorily nor that the water supply will be of sufficient quality or quantity for its intended use. This permit does not relieve the permittee or any other person of the necessity of obtaining all other applicable permits and complying with all other applicable state or local statutes, by-laws, or regulations, including but not limited to the building code, zoning by-law, and wetland laws. This preceding statement shall be printed on each well construction permit issued by the Board of Health.

APPROVED: April, 1990

AMENDED: November, 1995

AMENDED: January 12, 1999 (3-0)