



TOWN OF MEDFIELD

Office of

BOARD OF HEALTH

MEDFIELD, MASSACHUSETTS 02052

MINIMUM SANITATION STANDARDS FOR PRIVATE OR SEMI-PUBLIC WATER SUPPLY

The Board of Health of the Town of Medfield, acting under the authority of Chapter III, Section 31 of the General Laws and Amendments and Additions thereto, and by any other power thereto enabling, and acting thereunder, have, in the interest of, and for the preservation of the public health, duly made and adopted the following rules and regulations:

SECTION I. - DEFINITIONS

- A. Well - Includes any pit, pipe excavation, spring, casing, drill hole or other source of water to be used for any purpose of supplying potable water in the Town of Medfield and shall include dug wells, driven or tubular wells, drilled wells (artesian or otherwise) and springs, gravel packed, gravel walled wells, gravel developed and wash borings and as further described in U. S. Environmental Protection Agency Manual of Individual Water Supply Systems.
- B. 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.
- C. Private Water Supply - Any water system serving or intended to serve water for human consumption or for domestic uses or purposes on one lot. The system shall include all of the sources, treatment works, and distribution lines to the point where distribution takes place within the building.
- D. Semi-Public Water Supply - Any water system serving or intended to serve water for human consumption or for domestic uses or purposes including a multiple dwelling, or to restaurants, dairies, schools, institutions, motels, mobile home parks, bottling plants, campgrounds, recreational; camps for children, state forest, parks, beaches.

Section II. PERMITS FOR PRIVATE OR SEMI-PUBLIC WATER SUPPLY

- A. No private or semi-public water supply shall be installed, altered or repaired until a permit has been obtained from the Board of Health or its Agent. The fee for this permit shall be set by the Board from time to time. A permit so granted shall expire two years from the date of issue, unless construction is begun.

B. A plot plan shall be submitted with the application for a well permit to the Board of Health indicating the proposed location of the well, all buildings, boundary lines, septic systems (within 200 ft.)

Section III. GENERAL REQUIREMENTS

- A. No construction of, nor occupancy of, any facility which the well is to serve, shall be permitted until the well is installed, completed, and has been demonstrated to supply water of the quality and quantity specified herein.
- B. The well contractor shall observe sanitary measures and precautions in the performance of his work in order to prevent pollution or contamination of the well.
- C. Well drillers must be registered with the Massachusetts Water Resources Commission.
- D. Wells shall be located at least 15 ft. from any public or private way or street and 10 ft. from lot lines, and 50 ft. from any part of the septic system and 100 ft. from any leaching area or any other such greater distance as may be required by the Board of Health. The well must also be a minimum of 5 ft. from any building or projection thereof.
- E. The owners of a semi-public water supply shall possess and display an unrevoked permit from the Board of Health which signifies the status of sanitary protection, maintenance operation and improvements recommended.
- F. Pump houses or pump rooms shall be kept in sanitary condition at all times. Also the size of the room should be no larger than necessary to house the pumping and the electrical equipment involved in the water system. Lawnmowers, snowblowers, or other gas driven engines shall not be stored in the pump room. Insecticides, herbicides and/or fertilizers and the like shall not be stored in the pump room.
- G. Pump house, pump or pipe pits and wells shall be designated and constructed so as to prevent flooding and otherwise to prevent the entrance of pollution or contaminants.
- H. Pump houses, pump rooms and pitless adapters shall be installed in accordance with the "Individual Water System" USEPA manual.
- I. No person shall install or enter into a contract for installing or making additions, modification, or alterations to any "semi-public" water supply before submitting complete plans, specifications and descriptions to the Board of Health and receive from them written approval. Private and semi-public water supply systems shall be approved by the Board of Health before occupancy is permitted.

Section IV. WELL SPECIFICATIONS

- A. There shall be a minimum yield of 200 gallons per bedroom per day at 20 lbs. P.S.I. at the highest fixture serviced. A bedroom shall include undeveloped area that could be made into a bedroom. System capacity for semi-public water supplies must be adequate to meet projected needs.
- B. Pressure tanks for individual home installation shall be diaphragm type and have a minimum capacity of 36 gallons.
- C. Quantity tests shall be performed by competent pump or well drilling contractors and a well shall produce a supply for each dwelling unit served by an on-site well as follows:

<u>WELL DRAWING DEPTH</u>	<u>GMP - 4 hrs. (Minimum)</u>
0 to 150 feet	5 - 6
150 to 200 feet	4
200 to 300 feet	3
300 and over	2

- D. Auxiliary power must be available to maintain a water supply for multiple dwellings.
- E. A pitless adapter shall be provided such that the permanent watertight casing of the well shall terminate a minimum of 12 inches above finished grade and/or the elevation of 100 year flood.
- F. Well must be curbed and covered to prevent entrance or contamination and to divert surface drainage away from the well.
- G. The wall of a dug well shall extend 4 inches above the floor of the original ground surface.

H. Pipes and Equipment:

1. All service pipes and connections shall be of non toxic material and meet the specifications approved by the New England Water Works Association.
2. The installation of pipes shall be such that they are protected from crushing, freezing and/or attack by rodents.
3. 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 helpful in minimizing electric corrosion problems.
4. Electrical service grounds shall not be attached to the water piping. All electrical service and controls of well must be permitted, inspected and approved according to Town and State regulations.

Section V. WATER QUALITY AND QUANTITY SPECIFICATIONS

- A. Sanitary protection shall be incorporated into the construction of the well and final finishing at grade shall include cement platform large enough to extend 2 ft. in all directions from the well casing itself.
- B. All newly completed wells shall be disinfected in accordance with instructions from US Environmental Protection Agency Manual of Individual Water Supply Systems.
- C. Before approval, well log and pump test data shall be submitted to the Board of Health in the form attached to these regulations. It shall include a log of the well, showing depth and type of over-burden, depth of casing installed below ground surface, diameter of casing and diameter of the hole in the rock, static water level, and the pumping rate which can be sustained for four (4) hours. The well (after pump testing) shall recover to within eighty-five (85) percent of the original static water level within a twenty-four (24) hour period. The results of all testing shall be submitted to the Board of Health for approval and the well contractor shall be responsible for all data submitted.
- D. A chemical physical and bacteriological analysis of the water, conducted by a Mass. Certified Laboratory, shall be required. Water which does not meet the accepted standards of agencies of the State or Federal Government for potable water supplies shall be grounds for the rejection of the well. One sample shall be taken from a tap in the dwelling before occupancy. Acceptance of water quality shall also be based on its conformance to the normal characteristics of ground water on the area.
- E. A bacteriological test to indicate a 0 per 100 ml coliform density shall be required. A total bacteria count shall also be determined at 35 C.
- F. Chemical and physical analysis shall be required. Analyses shall be performed for at least the following:

Volatile Organic (Environmental Protection Agency 624)
pH, color, odor, turbidity, iron, manganese, ammonia nitrogen, nitrite nitrogen, nitrate nitrogen, alkalinity, total hardness, sodium, chlorides, arsenic, and lead.

The Board of Health may require other parameters to be tested when, in its opinion, circumstances particular to the subject location, warrant it.

Concentrations shall not exceed the United States EPA Recommended Maximum Contaminant Levels for Primary and Secondary Drinking Water Regulations in effect at the time of testing.

If a sodium concentration of greater than 20 milligrams per liter, or if a volatile organic concentration in any concentration, or if a nitrate nitrogen concentration of greater than 5 milligrams per liter is detected, a document shall be recorded in the Norfolk County Registry of Deeds which identifies the chemicals, their concentration, and health effects. A whole house treatment system for the removal of volatile organics shall be installed if they are detected. A statement shall be included in the recorded documents to the effect that the treatment unit requires regular maintenance. If volatile organics are detected in a water sample and then found to be absent in a subsequent sampling, the requirements for a recorded document and treatment unit shall only be removed following two successive samplings and analyses which show the absence of such contamination. When treatment units are installed, sampling and analyses must be performed and submitted to the Board of Health to demonstrate that the treatment unit is effective.

- G. Where applicable, water quality of semi-public water supplies shall comply with effective regulations of the U. S. Environmental Protection Agency and the Commonwealth of Massachusetts.

H. Water Conditioning

Permanent disinfection of a polluted supply is prohibited. If the natural water quality does not meet the physical and chemical criteria as listed in Section V. F., water conditioning shall be required. Water softener or other treatment backwash shall not be discharged into the septic system. Treatment units shall be installed with the capability of by-passing such units if necessary or desired.

Section VI. PROHIBITIONS

- A. Surface water supplies for private or semi-public water supplies shall be prohibited.
- B. Cisterns shall be prohibited.
- C. Cross connections shall be prohibited.
- D. Other cross connections for whatever purpose shall not be allowed without a written permit from Mass. Dept. of Public Health.
- E. Wells used for drinking water and domestic water supply shall not be used to provide water for ground water heat pump systems, for water cooling or air conditioning systems, or irrigation. Any wells used for such systems shall be approved by the Board of Health only after the applicant has submitted evidence to the satisfaction of the Board of Health that such use will not disrupt any other water supply and the yield

of such well is sufficient to provide a sufficient quantity of water to satisfy the manufacturer's recommendations for proper equipment operation.

Section VII. VARIANCE

- A. The Board of Health 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 Board of Health shall not conflict with the spirit of these minimum standards. Any variance granted by the Board of Health shall be in writing.
- B. Any variance or other modification authorized to be made by these regulations may be subject to such qualification, revocation, suspension or expiration as the Board of Health expresses its grant. A variance or modification authorized to be made by these regulations 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 an opportunity to be heard.

Section VIII. ENFORCEMENT

- A. The provisions of Article 1 of the State Environmental Code shall govern the enforcement of these regulations.
- B. Orders: Service and Content
 1. If an examination as provided for in Section V. C. and/or D. reveals failure to comply with the provisions of these regulations, the Board of Health may order the person or company responsible to comply with the violated provision.
 2. The inspection and these regulations cannot be construed as a guarantee by the Town of Medfield, or its agents, that the water system will function satisfactorily.
 3. The Board of Health may require a restriction to be recorded in the Registry of Deeds in cases which, in the opinion of the Board of Health, the water analyses show marginal compliance with the criteria of these regulations.

Section IX. ADOPTION AND DATE EFFECT

These rules and regulations were adopted by vote of the Board of Health, Town of Medfield, Massachusetts, and are to be in full force and effect on and after September 1, 1982 and shall, before said date be published in this Town and a copy thereof shall be deposited in the Office of the Town Clerk.

Medfield Board of Health

Edward J. Toomey, Chairman
Neil D. MacKenzie
William Tosches, MD

As adopted September 1, 1982
and amended July 22, 1987
re-typed sds03/12/97

A TRUE COPY ATTEST

Carol C. Mayer
TOWN CLERK OF MEDFIELD, MA

MEDFIELD BOARD OF HEALTH

THE FOLLOWING INFORMATION MUST BE SUPPLIED TO THE BOARD OF HEALTH FOR ITS REVIEW PRIOR TO ANY APPROVAL CAN BE GIVEN FOR USE OF THE WELL:

WELL & PUMP TEST DATA: (Must be signed by WELL CONTRACTOR & company performing pump test.)

The well should be pumped for a period of four (4) hours at a fairly constant drawdown water level. Record the following:

LOCATION: _____ **DATE OF TEST:** _____

WELL DEPTH: _____ feet **WELL DIAMETER:** _____ inches

DEPTH OF LEDGE BELOW SURFACE GRADE _____ feet

DEPTH OF CASING: _____ feet **TYPE OF SEAL:** _____

DEPTH OF WATER LEVEL BELOW GROUND SURFACE: _____

BEFORE TEST _____ FEET

AT END OF TEST (4 HOURS) _____ FEET

AFTER 24 HOURS _____ FEET

PUMPING RATE:

STARTED PUMPING AT: _____ **AT RATE OF:** _____ GMP

STOPPED PUMPING AT: _____ **AT RATE OF:** _____ GMP

DURING PUMP TEST:

DEPTH OF PUMP: _____ FEET **SIZE OF PUMP:** _____ HP

DEPTH OF PUMP TO BE INSTALLED FOR HOUSE: _____ FEET

SIZE OF PUMP TO BE INSTALLED FOR HOUSE: _____ HP

NAME OF WELL DRILLING COMPANY: _____

(Must be registered with The Commonwealth of Massachusetts)

Authorized Signature: _____

NAME OF COMPANY PERFORMING PUMP TEST: _____

Authorized Signature: _____

THE FOLLOWING BACTERIOLOGICAL AND CHEMICAL ANALYSES MUST BE PERFORMED, SAMPLE MUST BE TAKEN FROM A TAP IN THE BUILDING.

Total Coliform Bacteria

Total Iron

Nitrite Nitrogen

Turbidity

Total Bacteria

Manganese

Nitrate Nitrogen

Odor

Amonia Nitrogen

Color

Chloride

pH

Sodium

Total Alkalinity

Total Hardness

VOCs - EPA 524 or equivalent

Other parameters may be required on a case by case basis if deemed to be necessary in the opinion of the Board of Health.