R:1-2 SUPPLEMENTAL REGULATIONS TO 310 CMR 15.00

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THE STATE ENVIRONMENTAL CODE, TITLE 5

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R:1-2.1 Authority. In accordance with the provisions of Title I, Regulation 2 of the State Environmental Code and under the authority of GLc 111~31 and any other powers thereto enabling the Board of Health of Topsfield to adopt regulations relative to the disposal of sanitary sewage in unsewered areas, the following regulations are adopted as supplements of Title 5 of the State Environmental Code to become effective as of the date of adoption.

Title 5 of the Environmental Code of the Commonwealth of Massachusetts published May 25, 1977 provides "Minimum Requirements for the Disposal of Sanitary Sewage in Unsewered Areas," and is enforceable by the Board of Health, Topsfield, Massachusetts.

The provisions of Title 5 of the State Environmental Code and any subsequent revision of the same shall apply except when these supplementary regulations are more stringent. The following regulations are adopted to supplement, clarify, and augment the provisions of 310 CMR, 15.00 of the State Environmental Code Title 5, as amended.

R:1-2.2 Definitions (310 CMR 15.01).

Abandoned shall mean any subsurface sewage disposal system which has not been in use for three (3) years.

Bedroom shall mean a room furnished with a bed or beds primarily used for the purpose of sleeping.

Bordering Vegetated Wetlands shall mean as defined in Section 10.55(2) of the Wetlands Regulations 310 CMR 10.00 as amended.

Boarding or Lodging House shall mean as stated in the Topsfield Zoning By-Laws. A boarding/lodging house shall be considered an individual dwelling and as such have a separate septic disposal system.

Cluster Development shall mean all multifamily dwelling developments, single family dwellings with adjoining walls such as town houses, and any residential subdivision with individual lot areas that are less than or equal to fifty (50%) percent of the lot area prescribed in Article IV of the Topsfield Zoning By-Law.

Emergency shall mean where a septic system is failing and significantly threatens the environment, to the extent that it may create a nuisance of discharge into any watercourse, that system may be designated by the Board of Health or its Agent as an emergency and ordered to be repaired as soon as possible. Every effort shall be made to comply with current regulations. No variance is required.

Flood Plain shall mean the one-hundred (100) year flood plain elevation as described in Article VI, Section 6.03 of the Topsfield Zoning By-Law.

Repair shall mean construction to meet the standards of the State Environmental Code and these supplements. Repair construction includes:

a. Work on any subsurface sewage disposal system which is failing;
b. Adding additional capacity of either a septic tank or leaching area to a properly functioning system:
c. Work on any system which has been abandoned.

Seasonal Watercourse shall mean any brook, stream or drainage channel that flows during any portion of the year.

Wetlands shall mean as defined in GLc 131~40 as amended, and regulations promulgated there under.

R:1-2.3 General Requirements (310 CMR 15.02).

Section 1. Disposal Works Construction Permit. No individual sewage disposal system or other means of sewage disposal shall be located, constructed, altered, repaired or installed or discontinued unless a permit issued by the Board of Health in the name of the record owner of the land, after application by said owner or persons authorized by the owner. Such permit is effective only so long as the land remains in the name of the owner to whom the permit is issued. If the land shown on the approved plan and referred to in said permit is sold or transferred before work under the permit is completed, then the permit is void until such time that the new owner of record has filed a statement with the Board that the conditions under which the permit was issued have not been altered. In all cases, actual construction may not commence until the installer has an approved DWCP and paid the permit fee.

The repair application procedure shall be as follows: perform percolation and deep observation hole testing (where a system is failing, historical data may be used for maximum water table elevations); have a plan prepared by a registered sanitarian or professional civil engineer; file an application for a DWCP; have the plan and application approved by a registered sanitarian or professional engineer employed by the Board of Health.

Section 2. Application for Disposal Works Construction Permits. An application for a Disposal Works Construction Permit shall be obtained at the office of the Board of Health. A permit shall expire two (2) years from date of issuance unless construction has begun. A one (1) year extension may be granted if the plan meets Title 5 and Topsfield Board of Health Supplemental Regulations in effect at the time of expiration of the permit. If the environmental code or rules and regulations have changed, then no extension may be granted if said changes will affect the design of the septic system. If no extension is granted, then a new application is required. Extensions will not be granted if any changes occurred in soil, water conditions, and topography on site or on adjacent land that, in the Board of Health's opinion, would adversely affect the operation of the system and they affect the design of the system. A nonrefundable application fee and a permit extension fee will be charged.

Section 3. Plan of Sewage Disposal System. Application requirements for: (1) All new construction, (2) Alterations and major repairs which, in the opinion of the Board, are extensive shall be accompanied with:

Four (4) sets of plans submitted by a registered professional engineer whose registration is in the area of civil or sanitary engineering, signed, dated and certified with the stamp and signature of the person responsible for the design. The plans must be drawn to scale not less than one (1) inch equals twenty (20) feet and in a format approved by the Board of Health and contain the following information:

(a) Name and address of owner, lot number, assessors lot number, Registry of Deeds, book and page number.

(b) Lot size, lot lines, footprint of building, and floor plan of residence or boarding and lodging house
for new buildings, or the nature of use as specified in Title 5, Sec. 15.02, Subsection 13 for existing buildings.

(c) Location of street, structure, garage, outbuildings, driveway, large trees within fifty (50) feet of the locus of the sewage disposal system.

(d) Accurate perpendicular distance from lot lines and both sidelines to building.

(e) Elevation of top of foundation, cellar floor, garage floor as applicable.

(f) Location and dimensions of sewage disposal system and reserve area.

(g) Location and logs of all soil observation pits and results of all percolation tests performed on the lot.

(j) Cross-sections of sewage disposal system showing construction details.

(k) Location of all existing and proposed well watercourses, streams, brooks, ponds, lakes, swamps, marshes, culverts, pipes, swales, flood plains, seasonally wet areas, and areas of temporary or permanent ponded water within one hundred (100) feet of the septic system.

(l) Location of existing and proposed water supply within two-hundred (200) feet of the sewage disposal system. Location of all water service lines.

(m) An application for a DWCP for a lot which is not served by public or private water supply for which a letter of commitment from a company providing water service has not been provided shall be accompanied by a chemical and bacteriological analysis of the proposed water supply performed by a laboratory approved by the Board of Health. If the source of water is to be a well or similar device, then such well or similar device must be located and shown on the plan.

(n) Septic facilities and wells within two-hundred (200) feet of the septic system on immediately adjacent lots shall be indicated on the plan.

(o) All easements shall be clearly indicated on the plan, and the ownership of record of such shall be marked therein.

(p) The plan shall, by contours and narrative explanation, demonstrate that drainage patterns will not be detrimental to the proposed lot/dwelling and abutting properties. Proposed and existing contours shall be shown in two (2) foot contours, except where smaller contour intervals are necessary to define drainage patterns. This information shall be placed next to the title block whenever possible. Conditions which will result in prolonged standing water are unacceptable. Conductions which will significantly increase drainage onto a public way are unacceptable.

(q) The plan shall indicate true north.

(r) If a plan has been considered by the Board of Health, meeting in a regular session, and a change to the plan is required, such change or modification shall be made in such a way as to be easily distinguishable from the original proposal. Revisions shall be made distinguishable by including a revision date and an explanation of the change. This information shall be placed next to the title block whenever possible.

(s) The plan shall include a statement which reads clearly, "No changes are to be made in the field without the approval of the Topsfield Board of Health and the design engineer."

(t) The plan shall include a statement which reads, "This plan is designed in conformance with the 310 CMR 15.00 (Title 5) and the Topsfield Board of Health Supplemental Regulations to 310 CMR 15.00."

(u) A benchmark reference within one hundred (100) feet of the septic system shall be indicated on the plan.

(v) Location and elevations of any in-ground swimming pool on the lot.

(w) The location of underground storage tanks within fifty (50) feet of the leaching area shall be shown and their size indicated.

(x) Any additional data necessary to demonstrate compliance with Title 5 and these Supplementary Regulations.

Section 4. Plan of Sewage Disposal. In order for the Board to accept a proposal for consideration, the application must consist of a set of plans in conformance with Title 5 and Topsfield Supplementary Rules and Regulations, a Disposal Works Construction Permit application properly completed, and the filing fee.

Section 5. Building or Plumbing Permits/Subdivision Plans. Where an existing building or structure is being altered, renovated and/or repaired, such work may cause or permit a greater volume of sewage than the existing sewage disposal system was designed to accept, the system shall be redesigned to conform to the present Title 5 and this supplement. No building permit shall be issued unless the septic system serving that building has been approved by the Board of Health. Where work is to be accomplished in an existing structure or building including without limitation, repairs, alterations, addition, demolition and replacement so that occupant capacity is increased, the Board of Health shall be notified of such increase in occupant capacity.

Section 6. Certificate of Compliance. The design engineer shall certify that the system has been installed in accordance with the plan approved by the Board of Health, Title 5, and the Topsfield Board of Health Supplemental Regulations to 310 CMR 15.00. Two (2) copies of an as-built plan shall be submitted to the Board of Health within two (2) weeks of the final inspection. A Certificate of Compliance will not be issued until all conditions set forth above have been fulfilled. The as-built plan shall show the following:

(a) The lot being developed.

(b) Building as constructed in relation to the lot bounds.

(c) The location of septic tank and leaching field; distances to covers on the septic tank and the distribution box from the building foundation corners and to the four (4) corners of the leaching area; the location of the reserve area as shown on the approved site plan.

(d) Elevations of the top of the concrete foundation, garage floor, if any, inverts of septic tank and distribution box inlets and outlets, and inverts of the ends of the pipes in the leaching area.

(e) Plans shall be prepared in accordance with the approved scale and shall contain the stamp and signature of a registered professional engineer.

(f) The direction true north.

(g) The as-built plan may be prepared from the design plan submitted and amended to reflect the actual horizontal and vertical dimensions as they apply to the completed system.

Section 7. Inspections.

(a) Normally, three (3) or four (4) inspections shall be made by the Board of Health's Agent during construction: 1. Examination of the excavation and measurement of bottom leaching area; 2. Percolation testing of fill material if required; 3. Final inspection of construction before backfilling; 4. Final grade inspection. 1, 2, and 3 shall be made with the design engineer or his representative. Where additional inspections are required, a fee will be charged in accordance with the Board of Health's current fee schedule. Inspections for emergency repairs shall be accomplished as required.

(b) In new subdivisions, during the period from the time of commencement of construction until issuance of a Certificate of Compliance, the lot number shall be posted such that it is legible from existing or proposed ways.

Section 8. Drainage. The proposed grading of the lot on which the septic system is located shall divert surface water away from dwellings so as to prevent standing water and soil saturation detrimental to the dwelling and the individual sewage disposal system, and any existing or proposed septic systems on adjacent lots. Conditions which would result in prolonged standing water, within the immediate vicinity of the dwelling or individual sewage disposal system in any season is not acceptable, and the Board of Health shall be satisfied that such conditions do not exist. The use of interceptor drains/trenches/devices so as to divert surface water run-off shall only be considered when they can be tied into a new or existing drainage system. Written permission from the Highway Superintendent or other appropriate authority shall be submitted to the Board of Health at the time of application. Each system utilizing upgrade/sidegrade intercepting devices requires demonstration to the Board that the devices accomplish the intentions prior to any DWCP issuance. The storm water drainage control on every lot shall conform to the requirements of the Rules and Regulations relative to the Installation and Maintenance of Storm Drains adopted by the Board of Health and amended from time to time.

Section 9. Maintenance. The septic tank or cesspool of every subsurface disposal system shall be pumped at least once every four (4) years; more frequent pump-out is strongly recommended where the septic system serves more than two (2) persons. The use of septic system cleaners, additives, etc. may not be undertaken until written approval has been obtained from the Topsfield Board of Health.

Section 10. Reserve Area Requirements. The area reserved for future expansion of the disposal system shall be kept open and shall not be built upon with the exception of movable structures. Additions to the dwelling or in- ground swimming pools may not be constructed so as to preclude the expansion area from conforming to the minimum distances established in Title 5 or the Topsfield Board of Health Supplementary Regulations.

The Board of Health shall have the authority to determine the location of potential reserve areas in cases where such are not delineated on as-built plans and may require deep observation holes and percolation tests to assist in establishing reserve areas in such instances.

The primary and reserve areas of a system shall be located on the same lot as the dwelling which it serves.

Section 11. Geohydrological Report on Clusters and Subdivisions. In a cluster development where sewage from dwelling units is being treated by a subsurface sewage disposal system or systems, or a subdivision of land endorsed by the Topsfield Planning Board which involves the development of two (2) or more contiguous lots each served by a subsurface sewage disposal system, a geohydrological report prepared by a Professional Engineer experienced in this field may be required as part of the Board of Health permit application for the sewage disposal system. This report shall include but is not limited to estimates of the hydraulic conductivity, transmissivity, and porosity of the substrata to be used for effluent disposal including the reserve area. The report shall be based upon actual field testing, supplemented by laboratory testing as appropriate, of the soils underlying the disposal system or systems and for a minimum distance of five hundred (500) feet surrounding the system or systems. The report shall contain conclusions and recommendations pertaining to the ability of the soils to accept the sewage effluent; the ability of the soils to transmit the effluent away from the disposal area, and a calculation of groundwater mounding under the disposal area or areas.

LOCATION (310 CMR 15.03)

Section 12. Procedures for Percolation Tests, and Inspection of Deep Observation Holes. Deep observation hole inspections and/or percolation tests shall be scheduled in increments of one-half (1/2) day of the Board of Health Agent's time. Payments thereof, as set forth in the current fee schedule, shall be made at least twenty-four (24) hours in advance of the scheduled test or inspection. Tests or inspections shall be scheduled at least one (1) week in advance of the test or inspection date. Exception may be granted pending availability of the Board of Health Agent.

Section 13. Percolation Test Data Validity. Percolation test data shall expire two (2) years from the date of the test, unless renewed by the Board of Health at the request of the owner of the property or his/her agent at the time the data expires. The Board of Health may certify the validity of the test data for two (2) more years, provided there has been no alteration of the land which would affect the percolation data. Such an extension may be granted more than once. The Board of Health or its Agent shall determine if the site has been altered sufficiently to warrant new percolation tests.

Section 14. Percolation Tests. The maximum allowable percolation rate shall be twenty (20) minutes per inch.

Section 15. Distance Requirements. All connector pipes between the septic tank and leaching facility and pipes connecting any other components of the disposal facility except the building sewer pipe shall be subject to the same distance requirements as septic tanks, except that smaller distances to water suction lines (not less than ten (10) feet) and at crossings between sewer lines and water supply lines may be approved by the Board of Health. For purposes of this Section and 310 CMR 15.03 (7), Watercourses shall be considered to include Seasonal Water Courses and Bordering Vegetated Wetlands. Retaining walls to meet slope requirements are not permitted.

Ipswich River Protection District - The following excerpts from the Topsfield Zoning By-Law are provided for cross reference only, see Article VIII of the Topsfield Zoning By-Laws for full details. Section 8.01 (Ipswich River Protection District Description): "The Ipswich River Protection District shall be comprised of the land situated in an area bounded on each side by a line parallel to and distant two hundred (200) feet from the bank of the Ipswich River, as the same may be located from time to time."

Section 8.02 (Permitted Uses): Paragraph E - "No part of any sewage disposal system shall be permitted in the Ipswich River Protection District."

SEPTIC TANKS (310 CMR 15.06)

Section 16. Septic Tanks. Septic tanks shall be constructed of reinforced concrete. Tanks are required to contain a tee which shall be constructed of cast iron, Schedule 40 PVC or equivalent. The minimum size septic tank for all new construction shall be 1500 gallons liquid capacity.

Section 17. Access Manholes. To facilitate periodic inspection and maintenance of septic tanks, at least one (1) manhole must be brought to within eight (8) inches of grade.

PUMPS (310 CMR 15.09)

Section 18. Pumps. Pumps shall not be installed in an on-site wastewater disposal system without the written approval of the Board of Health.

Section 19. Number. Two (2) alternating pumps shall be installed for all pump systems except for single family residences, in which case a minimum of one pump and a warning system shall be required

Section 20. Pump System Plans. Plans for pump systems shall clearly show, as a minimum, the following information:

(a) Pump chamber elevations and dimensions, and volumetric water capacity in cubic feet.

(b) Cubic feet of water in pipe (from chamber to D-Box) when first pump starts.

(c) Liquid levels in pump chamber when;

1. Both pumps are "off",
2. One pump is "on",
3. Both pumps are "on",
4. Alarm is activated.

(d) Size of weep hole inside pump chamber, if necessary.

(e) All calculations relative to obtaining a one (1) inch saturation of entire leaching facility.

(f) All valve and piping schematics including elevations and check valve types and locations.

(g) Manufacturer's pump specifications, installation instructions, operating manual, and maintenance requirements shall accompany the septic system plan.

(h) Pump performance curves (total dynamic head ~TDH† vs flow) and system curves superimposed on the pump performance curves. The system curves shall be based on the minimum and maximum static heads and shall also reflect minimum and maximum estimates of form loss (new and aged pipe, low and high estimates of form loss factors). Equivalent length estimates of form losses will not be accepted.

PRIVIES AND CHEMICAL TOILETS (310 CMR 15.16)

Section 21. Restrictions. The use of a privy shall not be permitted. A chemical toilet may be approved by the Board of Health only as a temporary measure for outdoor use.

R:1-2.4 Enforcement (310 CMR 15.20).

Section 1. Variance Hearing; Variance Requests. The Board of Health may waive any Section of these Rules and Regulations with respect to any particular case, when, in its opinion, (1) the enforcement thereof would do manifest injustice: and (2) the applicant has provided that the same degree of environmental protection required under these Rules and Regulations may be achieved without strict application of the particular Section. Every request for a variance shall be made in writing and shall state the specific variance sought and the reasons therefore.

R:1-2.5 Policy Procedure.

Section 1. Scheduled Meetings. If the regularly scheduled meetings are not adequate to deal with all business, meetings shall be posted and scheduled within the time period prior to the next regularly scheduled meeting. These special meetings shall be classified as workshop meetings at which, except for emergencies, no unscheduled business will be accepted by the Board.

Section 2. Issuance of Permits. Permits are to be issued and dated the day after the meeting at which the Board approves the plan.

Section 3. Emergency Repairs. The Board of Health grants the authority to its Agent to make decisions on whether or not an engineer is required for emergency repair(s).

Section 4. Permit Fee. The Board of Health may establish a fee schedule for all drainage works construction permits. Said schedule shall consist of a filing fee and an additional fee for each lot on which the drainage facilities are located. Said fee schedule may be amended by the Board from time to time and shall be available at the Town Clerk's Office.

Section 5. Adoption. The rules and regulations as a supplement to Title 5 of the Environmental Code of the Commonwealth of Massachusetts were adopted by unanimous vote of the Board of Health, Town of Topsfield and shall be in full force and effect on and after the date of adoption and shall be published in a newspaper, and a copy thereof shall be filed in the office of the Town Clerk and the Board of Health.

NOTE: Supplemental regulations amended by vote during the November 15, 2012 BOH public hearing. Public hearing notices were duly posted in the Tri Town Transcript on 10/12/12 and 11/2/12. See meeting minutes from 12/8/11 through 11/15/12 for BOH discussion regarding regulation amendments—Gerald J. Topping, BOH Member

1. Submitted to the Town Clerk's Office December 31, 2012.

2. These Regulations to take effect January 1, 2013.