

FINAL MODEL 10.21.13
BOARD OF HEALTH REGULATION ON THE CONTENT AND APPLICATION OF
FERTILIZER USED IN THE TOWN OF _____

SECTION 1. PURPOSES

ALTERNATIVE A

Mounting evidence supports the claim that excessive nutrient enrichment of the region's groundwaters and surface waters may have significant public health significance. Direct effects on drinking water sources are well known and include the increased concentrations of nitrogen to levels that can violate the Safe Drinking Water Standards. The indirect public health effects expressed through surface water enrichment can be equally pronounced and include ecological alterations that can result in toxin algae blooms and the proliferation of human and animal disease organisms involving bacterial, fungal, myxozoa and insect vector pathogens.

The Board of Health recognizing that excessive, inappropriate or improper use of fertilizers is part of the overall problem of nutrient pollution promulgates the following regulation regarding the use of fertilizer on turf. This regulation incorporates by reference Best Management Practices which from time to time may undergo changes in response to scientific research. These practices, if followed, are deemed to protect the public health and aid in achieving compliance with the Total Daily Maximum Loads (TMDL) for the Towns water resources prescribed by the Commonwealth of Massachusetts while allowing reasonable use of fertilizers for the enhancement of turf quality.

ALTERNATIVE B

Mounting scientific evidence supports the claim that excessive nutrient enrichment of the region's groundwaters and surface waters, specifically by nitrogen and phosphorus, may have significant public health significance.

The indirect public health effects expressed through surface water enrichment can be equally pronounced and include ecological alterations that can result in toxic algae blooms and the proliferation of human and animal disease organisms involving bacterial, fungal, myxozoa and insect vector pathogens. Excessive amounts of nitrogen and phosphorus may contribute to undesirable algal and aquatic plant growth within the Town's fresh and salt water bodies. This undesirable algal and aquatic plant growth has an adverse effect on public health through the degradation of waters used for drinking water, shellfishing, and recreational swimming and boating. Algal blooms form in water when cyanobacteria (blue-green algae) grow quickly and form scums or mats in the water. Some blooms can produce toxins harmful to people and animals. These are called harmful algae blooms. Algal blooms are caused by excess levels of

nutrients in water bodies and can come from human-related sources. Phosphorus and nitrogen are two important nutrients used by blue-green algae in their growth, and can be found in fertilizers and human and animal waste. Health concerns from harmful algae blooms and their toxins vary depending on the type of exposure, and the amounts and types of toxin present:

- Contact with these algae can cause skin and eye irritation.
- Ingesting small amounts can cause gastrointestinal symptoms. Ingesting large amounts of toxins may cause liver or neurological damage.
- Inhaling water spray with algae in it can cause asthma-like symptoms.
- Small children and pets are more susceptible to the effects of toxins than adults. Livestock and pet deaths from ingesting algal toxins have occurred.

Direct public health effects of excess nutrients on drinking water sources are well known and include the increased concentrations of nitrogen to levels that can violate the Safe Drinking Water Standards. Nitrates and nitrites are nitrogen-oxygen chemical units which combine with various organic and inorganic compounds. Nitrates are common components in fertilizer. Once taken into the body, nitrates are converted to nitrites. Infants below six months who drink water containing nitrate in excess of the maximum contaminant level (MCL) could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome. The groundwater underlying this town is the sole source of its existing and future water supply, including drinking water. The groundwater aquifer is integrally connected with and flows into the surface waters, lake, streams and coastal estuaries which constitute significant recreational and economic resources of the town used for bathing and other water-related recreation, and shellfishing and fishing.

The Town has significant amounts of glacially deposited coarse, sandy soils that are subject to rapid water infiltration, percolation, and leaching of nutrients. These soil characteristics mean that agronomic practices of soil fertilization common in other parts of the region, state and country may not always apply in the Town, as these practices vary by soil type.

The Board of Health recognizing that excessive, inappropriate or improper use of fertilizers is part of the overall problem of nutrient pollution promulgates the following regulation regarding the use of fertilizer on turf. This regulation incorporates by reference UMass Amherst Extension's Turf Management Best Management Practices which from time to time may undergo changes in response to scientific research. The practices and standards set out herein, if followed, are deemed to protect the public health, including assistance in improving water quality and in achieving compliance with the Total Daily Maximum Loads (TMDL) for the Town's water resources prescribed by the Commonwealth of Massachusetts while allowing reasonable use of fertilizers for the enhancement of turf quality.

SECTION 2. APPLICABILITY

2.1. It is necessary and desirable to control by regulation in the Town of _____ the use of fertilizer that contains phosphorus and nitrogen for the purposes set out herein.

2.2. This Regulation allows for a reduction of nitrogen and phosphorus going into the Town's waters and wetlands by means of an organized system of education, certification and regulation of practice. This Regulation is not intended to eliminate the use of fertilizer but only to eliminate excess amounts of phosphorus and nitrogen from reaching our water and groundwater. This Regulation adopts the Best Management Practices as the normal operating procedures for turf management throughout the Town

2.3. This Regulation shall apply to turf management practices and to the application of nitrogen and phosphorus containing materials and fertilizer to turf within the Town, but not to plants other than turf.

2.4. This Regulation shall serve as the Town's Implementing Regulations pursuant to the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07.

SECTION 3. AUTHORITY

3.1. This Regulation is adopted by the Town of _____'s Board of Health as authorized by Massachusetts General Laws, Chapter 111, Section 31, and is further authorized as Implementing Regulations pursuant to the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07, and by Section 9 of Chapter 262 of the Acts of 2012.

SECTION 4. DEFINITIONS

For the purposes of this Regulation, the following words shall have the following meanings unless the context clearly indicates a different meaning:

“ _____ ” is the Town and all of its waters.

“Agriculture/ Agricultural Use” means farming in all of its branches including the cultivation and tillage of the soil, the production, cultivation, growing, and harvesting of any agricultural, floricultural or horticultural commodities, including but not limited to cranberries.

“Fertilizer Applicator” means any person who applies fertilizer to turf and soils.

“Best Management Practice,” BMP, means a sequence of activities designed to limit a nonpoint pollution source. For the purposes of this Regulation and pursuant to Section 5.1 of this Regulation, BMP means the most current edition of “Best Management Practices for Soil and Nutrient Management in Turf Systems,” prepared by University of Massachusetts Extension, Center for Agriculture, Turf Program.

“Certified Fertilizer Applicator” means an Applicator certified in the manner prescribed hereunder to apply fertilizer and manage turf in conformance with the BMP.

“Combination Products,” sometimes known as “Weed and feed,” means any product that, in combination with fertilizer, contains pre- or post-emergence herbicides, insecticides other pesticides or plant growth regulators.

Compost- the biologically stable humus-like material derived from composting, or the aerobic, thermophilic decomposition of, organic matter, which is used as a fertility source for turf.

“Fertilizer” means a substance that enriches turf with elements essential for plant growth, such as nitrogen, phosphorus, or other substances; fertilizer hereunder does not include dolomite, limestone, or lime, grass clippings, or compost/ compost tea. “Fertilize, fertilizing, or fertilization” means the act of applying fertilizer to turf.

“Impervious surface” means a surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water, except for compacted areas on athletic fields such as clay or baseball infields, intensely trafficked turf and the like.

“Landscape professional” means a person, either as a sole proprietor or as part of a company, who, in exchange for money, goods, services, or other consideration, performs landscaping services. A Landscape professional can include turf management staff at a private golf course operation or other private entity.

“Landscaping” means, for purposes of this Regulation, establishment (including by sod, seeding, or transplanting), renovation, maintenance, management or fertilization of turf.

“Municipal applicator” means a public employee of a town, the county, or the state or federal government (or an employee of a department of and within such public entity) who fertilizes and manages turf located on property owned or controlled by a town, the county, the state or federal government (including publicly owned golf courses and athletic fields) within the scope of their official public employment responsibilities.

“Non-Certified Fertilizer Applicator” means an Applicator who is not certified in the manner prescribed hereunder to manage turf and apply fertilizer in conformance with the BMP.

“Nutrient” means any of the following 17 elements needed for growth of a plant; the three (3) non-mineral elements: carbon, hydrogen, and oxygen; the six (6) macronutrients: nitrogen, phosphorus, potassium, calcium, magnesium, and sulfur; and the eight (8) micronutrients: boron, copper, iron, chloride, manganese, molybdenum, nickel and zinc.

“Nutrient management” means the systematic control of the application and availability of nutrients to plants in order to minimize nutrient loss and to maintain the productivity of the soil.

“Readily available nitrogen” means any water-soluble nitrogen (WSN) that is readily available to turf after application.

“Slow-release, controlled-release, timed-release, or slowly soluble/ available nitrogen” means nitrogen in a form that delays its availability for uptake and use after application, and is not rapidly available to turf.

“Soil” means the upper-most layer of the earth’s surface, comprised of mineral and organic matter, which can host biological communities.

“Soil test” means a technical analysis of soil conducted by a soil testing laboratory that uses standards recommended by and in agreement with the University of Massachusetts Amherst Extension Program BMPs, including a Modified Morgan soil testing procedure and extractable nutrient values.

“Turf” means grass-covered soil held together by the roots of the grass, also known as “sod” or “lawn.”

“Waters” or “Water-bodies” include, but are not limited to, streams, including intermittent streams, creeks, rivers, freshwater and tidal wetlands, ponds, lakes, marine waters, canals, lagoons, and estuaries within the Town, including without limitation all waters defined in Massachusetts General Laws Chapter 131, Section 40 and Town Wetland By-law, ordinance or Regulation with the exception of the following: coastal and inland banks, beaches, coastal dunes, dune fields, and lands subject to coastal storm flowage, inland or coastal flooding or inundation, or within 100 feet of the hundred-year storm line.

SECTION 5. STANDARDS OF PERFORMANCE

5.1. Best Management Practices

The Best Management Practices (“BMP”), as defined herein and attached hereto, is hereby incorporated into and made part of this Regulation.

5.2. Performance Standards for Non-Certified Fertilizer Applicators:

Fertilizer Applicators who do not hold Fertilizer Certification issued in accordance with Section 6.2 of this Regulation shall comply with the following standards for fertilizer applications to turf:

5.2.1. Non-Certified Fertilizer Applicators shall not apply fertilizer during or immediately prior to heavy rainfall, such as but not limited to thunderstorms, hurricanes, or northeastern storms, or when the soil is saturated due to intense or extended rainfall;

5.2.2. Non-Certified Fertilizer Applicators shall not apply fertilizer or compost between November 12 and the following April 14;

5.2.3. Non-Certified Fertilizer Applicators shall not apply, spill, or deposit fertilizer on any impervious surface and fail to remove the applied, spilled, or deposited fertilizer immediately (and in which case the Applicator shall then either contain, dispose of legally or apply the fertilizer as allowed), and shall not apply, spill or deposit fertilizer in a manner that allows fertilizer to enter into storm drains;

5.2.4. Unless the Town's By-laws, including its Wetland By-law or Regulations, contain a stricter standard, or other enforcement or approval mechanism such as through the Town's Conservation Commission, which shall control, Non-Certified Fertilizer Applicators shall not apply fertilizer closer than 100 feet to any water-body unless permission is obtained through the enforcement authority set out herein allowing such activity.

5.2.5. A Non-Certified Fertilizer Applicator shall not apply fertilizer that contains phosphorus, unless a soil test taken not more than three years before the proposed fertilizer application indicates that additional phosphorus is needed for growth of that turf, or unless establishing new turf or re-establishing or repairing turf after substantial damage or land disturbance, in which case the application shall be in compliance with the BMP.

5.2.6. A single application of fertilizer that contains nitrogen shall not exceed 1.0 pound of actual nitrogen per thousand square feet, shall consist of at least 20% slow-release nitrogen fertilizer¹ and the annual rate shall not exceed 3.2 pounds of actual nitrogen per thousand square feet. Single applications shall be done at intervals of no less than four weeks until the annual maximum is reached.

5.2.7. The fertilizer application requirements of this Section 5.2. shall apply with the same limitations to combination products, i.e. amount of nitrogen, vicinity of waterbodies.

5.3. Performance Standards for Certified Fertilizer Applicators

5.3.1. Certified Fertilizer Applicators shall be exempt from the requirements set forth in Section 5.2 of this Regulation, provided that they manage turf in accordance with the BMP.

5.4. Exemptions. The following activities shall be exempt from this Regulation:

5.4.1. Application of fertilizer for Agriculture/ Agricultural Use.

5.4.2. Application of fertilizer to home gardens, landscape ornamentals, shrubs, trees bushes, vegetables, fruit and container plants.

SECTION 6. EDUCATION, CERTIFICATION, ENFORCEMENT, AND PENALTIES.

6.1. Education

¹ **Note:** this represents the minimum percentage: use of higher SRN content is generally preferable, especially on sandy root zones, during stress and pre-stress periods, and when there are fewer annual applications of nitrogen made to a lawn.

6.1.1. The Town may rely on Cape Cod Cooperative Extension to assist in maintaining a program of fertilizer education that is based on the BMP.

6.1.2. The Town may rely on Cape Cod Cooperative Extension to administer an assessment to determine an Applicator's proficiency of the BMP.

6.1.3. The Town may rely on Cape Cod Cooperative Extension to administer a county wide Fertilizer Certification process.

6.1.4. Fertilizer education may consist of, but is not limited to, collaboration with retailers to post in-store information on town fertilizer regulations, the BMP and Fertilizer Certification requirements; mailings and flyers for the general public concerning town fertilizer regulations, the BMP and Fertilizer Certification requirements; and outreach to Landscape professionals and Municipal Applicators concerning town fertilizer regulations, the BMP and Fertilizer Certification requirements.

6.1.5. The Cape Cod Commission may assist the Cape Cod Cooperative Extension in the administrative duties associated with the processes outlined in Sections 6.1 and 6.2.

6.2. Fertilizer Certification

6.2.1 Any Non Certified Fertilizer Applicator may apply to the Cape Cod Cooperative Extension for Fertilizer Certification as a Certified Fertilizer Applicator.

6.2.2. Cape Cod Cooperative Extension will establish application requirements for and the process required to obtain Fertilizer Certification and renewals thereof, including evidence that the applicant is proficient in the BMP.

6.2.3. Notwithstanding the requirement for a proficiency assessment set out in Section 6.2.2, Municipal applicators or Landscape professionals who meet the following criteria shall be presumed to be proficient in the BMP and may become Certified Fertilizer Applicators without the need for an additional proficiency assessment:

1. Active membership in the Cape Cod Landscapers Association, the Golf Course Superintendents Association of Cape Cod, Massachusetts Association of Lawn Care Professionals (MALCP) or a substantially similar organization; and one of the following;
2. Current Massachusetts Pesticide Commercial Applicator License (category 00) or Commercial Applicator License with Turf Certification (category 37) or Commercial Applicator License with Shade Tree & Ornamentals Certification (category 36),, with evidence of participation in a recognized continuing education program for turf management within the past year, or

3. Associate's Degree or higher in Turf Management, or closely related field, with evidence of participation in a recognized continuing education program for turf management within the past year; or
4. Current Massachusetts Certified Landscape Professional (MCLP) Certification, or substantially similar professional certification with emphasis on turf management, with evidence of participation in a recognized continuing education program for turf management within the past year; or
5. Certificate of Completion from the University of Massachusetts Extension Green School (Turf or Landscape sections) or the University of Massachusetts Winter School for Turf Managers, or a horticultural certificate from Cape Cod Community College, or substantially similar professional certification with emphasis on turf management, with evidence of participation in a recognized continuing education program for turf management within the past year.

6.2.4. Municipal applicators or Landscape professionals who are Non-Certified Fertilizer Applicators may nonetheless apply fertilizer and manage turf pursuant to the standards for Certified Fertilizer Applicators set out in Section 5.3 of this Regulation so long as they fertilize and manage turf under the direct supervision of a manager or supervisor who has attained Fertilizer Certification hereunder. "Direct supervision" shall mean the instruction and control by such manager or supervisor who is responsible for fertilizer applications made and that person making them, and who is either physically present at the time and place the fertilizer is applied, or if not physically present, is available if and when needed.

6.2.5. Any Certified Fertilizer Applicator shall ensure that a copy of the official documentation of said Fertilizer Certification is readily available when and at the location fertilizer is being applied, and shall provide such Certification when requested to do so by any officer of the Town's health department.

6.3. Enforcement

6.3.1. Non-Criminal Disposition

This Regulation may be enforced by the Health Director or Assistant Health Officer/ Agent. Whoever violates any provision of this Regulation may be penalized by a noncriminal disposition process as provided in G.L. c.40, §21D and the Town's non-criminal disposition by-law. If noncriminal disposition is elected, then any person who violates any provision of this Regulation shall be subject to a penalty in the amount of three hundred dollars (\$300.00) per day for each day of violation, commencing ten days following day of receipt of written notice from the Board of Health. Each day or portion thereof shall constitute a separate offense. If more than one, each condition violated shall constitute a separate offense.

6.3.2. Other

The Board of Health may enforce this Regulation or enjoin violations thereof through any lawful process, and the election of one remedy by the Board of Health shall not preclude enforcement through any other lawful means.

SECTION 7. SEVERABILITY CLAUSE

Should any section, part or provision of this Regulation be deemed invalid by a court of competent jurisdiction, such decision shall not affect the validity of the remaining terms of this Regulation as a whole or any part thereof, other than the section, part or provision held invalid, which shall remain in full force and effect.

SECTION 8. AMENDMENTS

No amendment to this Regulation shall be adopted until such time as the Board of Health shall hold a public hearing thereon, notice of the time, place and subject matter of which, sufficient for identification, shall be given by publishing in a newspaper of general circulation in the Town once in each of two successive weeks, the first publication to be not less than fourteen days prior to the date set for such hearing. No such amendment shall be effective unless the proposed amendment has been reviewed and approved by the Board of Health.

Amendments shall also be subject to the procedures set out in Sections 10 and 11 of the Cape Cod Commission Act, Chapter 716 of the Acts of 1989, as amended. Specifically, amendments must also be consistent with the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07 and the Guidelines for Implementing Regulations set out therein, including the requirement for consistency with the BMP.

SECTION 9. EFFECTIVE DATE

The effective date of this Regulation shall be the publication date pursuant to G.L. c. 111, §31, provided the Regulation has been certified by the Cape Cod Commission as consistent with the Fertilizer Management District of Critical Planning Concern designation, Barnstable County Ordinance 13-07.

SECTION 10. INTERIM PROVISION

Notwithstanding any provisions to the contrary contained herein, any application of fertilizer to turf shall be made in accordance with the BMP unless and until the Fertilizer Certification process outlined in Section 6.2 is implemented and in effect.
