

**RULES ADOPTED BY
THE LEXINGTON CONSERVATION COMMISSION
PURSUANT TO THE CODE OF THE TOWN OF LEXINGTON
FOR WETLAND PROTECTION, CHAPTER 130**

(Formerly Town of Lexington General By-Laws Article XXXII, the General By-Law for Wetland Protection)

SECTION 1. INTRODUCTION

These regulations are promulgated by the Lexington Conservation Commission pursuant to the authority granted to it under the Code of the Town of Lexington Chapter 130 Code for Wetland Protection. These regulations shall complement the Code and shall have the force of law upon their effective date.

SECTION 2. PURPOSE

The Code establishes a public review and decision-making process by which activities affecting Protected Resource Areas are to be regulated in order to contribute to the protection of the following interests:

- public or private water supply
- ground water supply
- flood control
- storm damage prevention
- other water damage prevention
- prevention of pollution
- protection of surrounding land and other homes or buildings
- aquatic life or wildlife
- protection of streams, ponds, or other bodies of water

The purpose of the regulations is to define and clarify that process by establishing uniform procedures and standards by which the Lexington Conservation Commission may carry out its responsibilities under the Code.

SECTION 3. DEFINITIONS

Abutter is any landowner, as determined by the most recent assessors' records, whose land abuts the property that is the subject of the Notice of Intent or whose land lies directly across any street, road, river, stream, brook, or creek from the said property.

Alter is defined in Section 130-8(D) of the Code.

Applicant, as used in these regulations, shall mean a person giving notice of intention to remove, fill, dredge, build upon, or alter, or a person on whose behalf such a notice is filed.

Bank is defined in Section 130-8(C)(3) of the Code.

Bog See Marsh.

Buffer Zone See Protected Resource Area.

Freshwater wetland is defined as it is in M.G.L. Chapter 131, Section 40, (hereafter known as M.G.L. Ch. 131, s. 40).

Land Actively Devoted to Agricultural Use shall mean the same as "Land in Agricultural Use" as defined in 310 CMR 10.04. Normal Maintenance and Improvement shall be defined as it is in 310 CMR 10.04.

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Land Subject to Flooding or Inundation is that land which, under existing conditions, would be defined as either "Bordering Land Subject to Flooding" in 310 CMR 10.57 or "Isolated Land Subject to Flooding".

Marsh, Bog, Wet Meadow, and Swamp are defined as they are in M.G.L. Ch. 131, s. 40, and are collectively known as vegetated wetlands. Credible evidence as to the wetland affinities of other vegetation in an area shall be considered in making wetland determinations.

Person, as used in these regulations, shall include any individual, group of individuals, association, partnership, corporation, business organization, trust, estate, the Commonwealth of Massachusetts or any public or quasi-public corporation or body when subject to Lexington Codes Chapter 130, any other legal entity, including the Town of Lexington or its legal representatives, agents, or assigns, or any combination of the preceding.

Protected Resource Area shall mean any bank, freshwater wetland, marsh, bog, wet meadow, swamp, creek, river, stream, pond, or lake or any land under said waters, or any land bordering thereon, or any land subject to flooding or inundation. Land bordering thereon (also known as "Buffer Zone") shall mean either (a) 100 feet horizontally lateral from the bank of any bog, marsh, meadow, or swamp bordering on a creek, river, stream, pond, lake, or any bordering or isolated wetland; or (b) 100 feet horizontally lateral from the water elevation of the 100-year storm, whichever is the greater of (a) or (b).

Swamp See Marsh

Vernal pools or ponds are generally temporary in nature, are isolated from permanent water bodies, and are noted for their absence of adult fish populations. Because vernal pools are devoid of the effects of fish predation, breeding strategies of a number of amphibian species have evolved such that they place total reliance on these isolated wetlands. Areas in the immediate vicinity of these pools also provide these species with important non-breeding functions, such as feeding, shelter, shade, leaf litter, and over-wintering sites. The invertebrates that inhabit vernal pools provide an important food source for various species of birds, mammals, and reptiles, as well as amphibians. The extreme upper edges of the vernal pool represent one of the most ecologically valuable portions of these habits. Shallow water at the edge of a vernal pool is generally the first to thaw in the spring. This provides early access to the pool for the earliest breeding species. The shallow water zones also tend to be significantly warmer than the deeper portion of a vernal pool throughout the spring. Egg masses of early breeding amphibians benefit from the warmer water temperatures at the pool edges that promote rapid egg development.

Wet Meadow See Marsh

SECTION 4. PROCEDURES

(1) Determination of Applicability

Any person who desires a determination as to whether the Code applies to any land or work to be performed thereon may submit a written request in triplicate to the Lexington Conservation Commission. The request shall be sent by certified mail or hand delivered, and shall be in the form required under M.G.L. Ch. 131, s. 40 and 310 CMR 10.00 and shall include such additional information as the Commission may require to aid in the evaluation.

Within 21 days of receipt of the complete request, the Commission shall issue a Determination of Applicability of Code Chapter 130. Notice of the time and place of the public meeting at which the determination will be made shall be given by the Commission at the expense of the person making the request not less than 5 days prior to such meeting by publication in a newspaper of general circulation in Lexington, and by mailing a notice to the person making the request and to the owner. Said determination shall be signed by a majority of the Commission, and copies thereof shall be sent by the Commission to the person making the

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request and to the owner. Said determination shall be valid for 3 years from the date of issuance.

The decision of the Commission may be appealed according to the provisions of M.G.L. Ch. 249, s.4.

(2) Notice of Intent

(A) Filing Procedure

Any person who proposes to do work that will remove, fill, dredge, build upon, or alter any Protected Resource Area shall submit to the Commission a Notice of Intent, consisting of application materials required for a Notice of Intent under M.G.L. Ch. 131, s. 40 and 310 CMR 10.00 and containing such additional materials as the Commission may require to fully describe the proposed activity and its effect on the environment. Each such notice shall be accompanied by a filing fee to be determined in accordance with a fee schedule established by the Commission. Copies of such notice shall be sent at the same time, by certified mail or by hand delivery to the Commission, to the Town Engineer, Board of Selectmen, Planning Board, and Board of Health.

If the Notice of Intent is deemed by the Commission to be insufficient to fully describe the proposed activity and its effect on the environment, the Commission may, at its discretion: (a) notify the applicant, by certified mail within 10 days of receipt of the notice, of the additional information that will be necessary to render the notice sufficiently complete for acceptance. The filing fee shall be returned and the 30-day review period shall not begin until a complete application is submitted; or (b) inform the applicant at or prior to the public hearing of the additional information required, and offer the applicant the opportunity to continue the public hearing so that the additional information can be submitted for review.

(B) Public Hearing

A public hearing shall be held by the Commission within 30 days of the receipt of said Notice. Notice of the time and place of said hearing shall be given by the Commission at the expense of the applicant not less than 5 days prior to such hearing by publication in a newspaper of general circulation in Lexington, and by delivering or mailing a notice to the applicant, the owner, the Board of Health, Board of Selectmen, Town Engineer, Planning Board, and abutters of the land on which the proposed activity is to take place.

Public hearings may be continued as follows:

- (a) without the consent of the applicant, to a date, announced at the hearing, within 30 days of receipt of the Notice of Intent;
- (b) with the consent of the applicant, to an agreed-upon date, which shall be announced at the hearing; or
- (c) with the consent of the applicant, for a period not to exceed 30 days after the submission of a specified piece of information or the occurrence of a specified action. The date, time, and place of said continued hearing shall be publicized in accordance with the Code and notice shall be sent to any person who so requests in writing.

(C) Order of Conditions

Within 21 days of the close of the public hearing, or within such further time as the Commission and the applicant shall agree on, the Commission shall either:

- (a) make a determination that the area on which the work is proposed to be done, or which the proposed work will remove, fill, dredge, build upon, or alter, is not significant to any of the interests identified in the Code, and shall so notify the applicant; or

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- (b) make a determination that the area on which the work is proposed to be done, or which the proposed work will remove, fill, dredge, build upon, or alter, is probably significant to one or more of the interests identified in the Code, and shall issue an Order of Conditions for the protection of said interest(s).

The Order of Conditions shall impose such conditions as are necessary to meet the performance standards set forth in Section 5 of these regulations and such additional conditions as are necessary for the protection of the interests identified in the Code. The Order shall prohibit any work or any portion thereof that cannot be conditioned to meet such standards. The Order may impose conditions on work outside Protected Resource Areas when, in the opinion of the Commission, (1) such work will have a direct impact on a Protected Resource Area by virtue of changes in the characteristics of storm drainage discharged to that Area from the property, or (2) such work is integrally connected with work to be undertaken within a Protected Resource Area and the only practical way to protect the interests of the Code is to regulate the project as a whole.

The Order shall be signed by a majority of the Conservation Commission. The Order shall be valid for a period of three years, provided, however, that the Commission may issue an Order for as little as one year or as much as five years where special circumstances warrant and where those special circumstances are set forth in the Order.

Prior to the commencement of any work permitted or required by the Order, the Order shall be recorded in the Middlesex South Registry of Deeds or Land Court within the chain of title of the affected property. In the case of recorded land, the final order shall also be noted in the Registry's Grantor Index under the name of the owner of the land upon which the proposed work is to be done. In the case of registered land, the final order shall also be noted on the Land Court Certificate of Title of the owner of the land upon which the proposed work is to be done. Certification of recording shall be promptly sent to the Commission. If work is undertaken without the applicant first recording the Order, the issuing authority may revoke the Order of Conditions, may issue an Enforcement Order or may itself record the Order of Conditions.

(D) Appeals

Any person aggrieved by the decision of the Conservation Commission, whether or not previously a party to the proceeding, may appeal the decision according to the provisions of M.G.L. Ch. 249, s. 4.

(E) Extensions

The Commission may extend an Order for one or more periods of up to 3 years each. The request for an extension shall be made to the Commission at least 30 days prior to expiration of the Order.

The Commission may deny the request for an extension and require the filing of a new Notice of Intent for the remaining work in the following circumstances:

- (a) where no work has begun on the project within a period of 3 years from the date of issuance of the Order, except where such failure is due to unavoidable delays, such as appeals, in the obtaining of other necessary permits;
- (b) where new information, not available at the time the Order was issued, has become available and indicates that the Order is not adequate to protect the interests identified in the Code;
- (c) where incomplete work is causing damage to the interests identified in the Code; or
- (d) where work has been done in violation of the Order or these regulations.

The Extension Permit shall be recorded in the Land Court or the Registry of Deeds, whichever is appropriate, and certification of recording shall be promptly sent to the Commission. If work is undertaken without the applicant so recording the Extension Permit, the Commission may issue an Enforcement Order or may itself record the Extension Permit.

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(F) Certificates of Compliance

Upon written request by the applicant, the Commission shall issue a Certificate of Compliance within 21 days of receipt thereof provided that the activity or portions thereof described in the Notice of Intent and accompanying plans have been completed in compliance with the Order. If a project has been completed in accordance with plans stamped by a registered professional engineer, architect, landscape architect, or land surveyor, a written statement by such a professional person certifying substantial compliance with the plans and setting forth what deviation, if any, exists from the plans approved in the Order shall accompany the request for a Certificate of Compliance.

Prior to the issuance of a Certificate of Compliance, a site inspection shall be made by the Commission or its agent, in the presence of the applicant or the applicant's agent if desired by the applicant.

If the Commission determines, after review and inspection, that the work has not been done in compliance with the Order, it may refuse to issue a Certificate of Compliance. Such refusal shall be issued within 21 days of receipt of the request, shall be in writing, and shall specify the reasons for denial.

If the final Order contains conditions which continue past the completion of the work, such as maintenance or monitoring, the Certificate of Compliance shall specify which, if any, of such conditions shall continue. The Certificate shall also specify to what portions of the work it applies, if it does not apply to all the work regulated by the Order.

The Certificate of Compliance shall be recorded in the Land Court or Registry of Deeds, whichever is appropriate. Certification of recording shall be promptly sent to the Commission. Upon failure of the applicant to so record, the Commission may do so.

SECTION 5. PERFORMANCE STANDARDS

(1) Incorporation of State Standards

Applicants seeking approval under the Code must meet all applicable state Wetland Protection Act standards and the standards of 310 CMR 10.53 -10.60 are herein incorporated by reference. Further, the Commission finds that protection of the interests identified in the Code requires that applicants also meet the following additional standards. Failure to meet these additional standards will result in the Commission's denial of an application. .

(2) Increase in Runoff

Any proposed work that discharges to a protected resource area or connects to a storm drain system that discharges to a protected resource area shall not result in an increase in the peak rate of surface runoff during 2-year, 10-year, or 100-year return period design storm events and shall not result in an increase in the total volume of surface runoff for the 1-year return period storm at all design points. Design points for evaluating runoff from each subwatershed will be at the furthest downgradient property boundary or location of discharge to a protected resource area, whichever occurs furthest upstream. If there are no protected resources on the property, a location interior to the property may be used as the design point if there are no proposed changes to the property downstream of the proposed design point. Each subwatershed under pre-development conditions, shall have a separate design point and the performance standards will apply both at each design point separately and in total for all design points. For purposes of comparing pre-development and post-development runoff rates, calculated runoff rate values shall be rounded to the nearest 0.01 cubic feet per second and runoff volume to the nearest 1 cubic foot.

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Surface runoff calculations shall be performed using the Natural Resources Conservation Service (NRCS) Technical Release 20 (TR-20) or NRCS Technical Release 55 (TR-55) calculation methods and TR-55 parameter estimation methods, as modified by the Massachusetts NRCS office, except that the Rational Method/Modified Rational Method may be used for lot sizes less than one acre and the 24-hour rainfall amounts shall be based on the Northeast Regional Climate Center "Atlas of Precipitation Extremes for the Northeastern United States and Southeastern Canada." (rounded to the nearest one-tenth of an inch).

This rule shall not apply to additions or freestanding structures that increase the impervious area on the lot by less than 100 square feet unless evidence is presented that indicates the area downstream of the proposed addition is already subject to flooding problems, as determined by the Commission. On a given property, exemption from these rules for a less than 100 square-foot increase in impervious area may be taken no more than once in any 3-year period.

In addition to controlling peak rates of surface runoff, the annual ground water recharge under post-development conditions should approximate, or exceed, the pre-development recharge to the extent practicable. Guidelines for pre-development recharge based on soils types or other parameters and other design guidelines as issued by the Massachusetts Department of Environmental Protection shall be used to evaluate ground water recharge.

Swimming pools shall be treated as impervious surfaces, with the following exception. If the pool can be shown to capture the entire design storm and does not discharge the captured water outside the closed pool system for a period of at least 24-hours after the end of a storm event, the water surface area of the pool may be considered to adequately control runoff from rain falling directly on the water surface for purposes of runoff rate and volume evaluation. No other portions of the property shall be considered to drain into the pool when evaluating runoff rate and volume.

Commentary:

Increases in peak runoff from a property result in increases in flooding downstream of the property. Storms of 2-year, 10-year, and 100-year return frequencies were selected as representative of the range of storms that may cause flooding damage. While compliance with this standard does not ensure no increase in downstream flooding as a result of a project, the Commission believes this standard to represent a reasonable compromise between the desire to prevent an increase in flooding and the cost of proving no increase will occur. The Conservation Commission will not approve deviations from these rules unless it is persuaded by clear and convincing evidence presented by the applicant that the proposed design will secure the interests of the Massachusetts Wetlands Protection Act and the Town of Lexington Code C.130, Wetland Protection.

In recognition of the cumulative environmental damage that has been caused by existing development prior to the promulgation of effective stormwater management rules, the Conservation Commission strongly encourages the retrofitting of existing structures with stormwater management controls that meet the requirements of these rules and the Massachusetts Department of Environmental Protection stormwater policy and standards to the maximum extent practical. The Commission also encourages minimization of impervious areas and use of low-impact design methods.

In addition to flood protection, changes in runoff volume, rate, or frequency may alter the characteristics of established wetlands or other protected resources. Therefore, it is desirable to maintain pre-development hydrologic characteristics to the extent practicable.

(3) Structures in Floodplain

No building of any kind, and no parking lot or any other facility for the temporary or permanent storage of automobiles, trucks, or other material shall be located below the 10-year flood level.

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Commentary:

Buildings located within floodplains, despite reasonable precautions during their design, may be seriously damaged by floodwaters and objects borne by these waters. Access to such structures in periods of flood is hazardous but may be attempted for the protection of life or property. Floodproofing may fail during such periods, and materials stored in these structures, including potentially hazardous pollutants, may be released to floodwaters.

Parking lots and other temporary storage facilities located within floodplains may cause harm to the interests identified in the Code in several ways. Oil, gasoline, grease, sand, salt, and other pollutants commonly found on parking lot surfaces will be swept into nearby wetlands by flood waters. Vehicles and other materials occupy space that otherwise would be available for flood storage, thereby increasing the severity of flooding elsewhere. Automobiles and other materials stored in such areas will be damaged by the rising floodwaters, causing economic loss, and attempts to prevent such loss during periods of flood may lead to injury and loss of life. Materials stored in such areas may be carried away by floodwaters and may block culverts and other constrictions, thereby increasing the severity of localized flooding.

(4) Wildlife Habitat Impact and Mitigation

On any application for the approval of a project involving the disturbance of more than 20,000 square feet within a Protected Resource Area, the Commission may require (a) an analysis, by a competent wildlife biologist, of (1) the habitat value of the parcel of land to be disturbed and of the adjacent area, and (2) the impact of the proposed development on wildlife populations and habitat value, and (b) proposed measures to be taken during construction and during operation to mitigate these impacts. Where project size warrants, the Commission may require the submission of the results of a quantitative habitat analysis, such as the Habitat Evaluation Procedures (HEP) developed by the U.S. Fish and Wildlife Service. For projects that may disturb less than 20,000 square feet, the Commission may require such an analysis on a case-by-case basis after an inspection and review of the property and project. The Commission may impose whatever conditions it deems necessary to limit impacts on wildlife to acceptable levels, regardless of project size.

Commentary:

Wetlands and adjacent uplands are widely recognized as often being highly productive of wildlife, and changes in one part of a wetlands system may have ramifications for wildlife throughout the system and beyond. In many cases, small changes in project design or relatively simple mitigation measures may result in large changes in wildlife impact. It is the Commission's intent to take advantage of these possibilities through explicit consideration of wildlife impacts on large projects. The size limit was selected to exempt most single-family homes and other small projects; while such projects may have a substantial cumulative impact, in general their individual impacts will be minor and individual review would be unnecessarily time-consuming and costly.

(5) Buffer Zone

1. To the maximum extent possible, Buffer Zones shall be comprised of diverse, non-invasive native vegetation. Where Buffer Zone disturbance is permitted, revegetation with native species appropriate for the local conditions will be required. Of contiguous land within the Buffer Zone, construction activities may disturb no more than 50% or the amount not presently supporting a vegetated community as described above, whichever is greater. To the maximum extent possible, work within the buffer zone shall be located away from the associated Protected Resource Area.

2. In order to be permitted to do work in the Buffer Zone, the applicant must demonstrate, by a preponderance of the credible evidence, that because of project design and site conditions, the work will not cause significant individual or cumulative harmful effects to the interests sought to be protected by the Lexington Code for Wetland Protection. Relevant site conditions may include, but are not limited to: slope; vegetation; soil;

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geology; microclimate; wildlife habitat; level of expected future activity within the proposed buffer; perviousness of proposed surfaces; and the nature of the associated Protected Resource Area. Relevant elements of project design may include, but are not limited to: perviousness of proposed surfaces; limitation of activity near the associated Protected Resource Area; and other mitigation beyond what is required by law. Even if such a showing is made, the commission will not approve any structure, roadway, driveway, or other constructed surface within 50 feet of an associated Protected Resource Area except in extraordinary circumstances and only if proposed mitigation will result in a substantial improvement over existing conditions.

3. Where the Buffer Zone has been previously altered within 50 feet of the associated Protected Resource Area, new development shall be located landward of existing development, away from the Protected Resource Area. If the previous development includes a structure with a footprint of more than 250 square feet and, because of the size or shape of the lot, it is impracticable to confine a replacement of or addition to that structure to an area outside the 50-foot buffer, that replacement or addition may create a setback of less than 50 feet from the Protected Resource Area, provided (1) that the proposed setback is no less than that from the part of the existing structure that is closest to the Protected Resource Area and (2) that the new construction does not increase the amount of impervious surface within the 50-foot buffer or that, by the application of mitigation measures beyond those normally required by applicable performance standards, the proposed project will result in a net improvement to the capacity of the Buffer Zone to protect the interests set forth in the Lexington Code for Wetland Protection.

4. Work in the Buffer Zone shall not impair critical wildlife habitat or any vernal pool habitat.

5. The use of herbicides, pesticides, fungicides, fertilizers or other chemical treatment, unless required by state law, constitutes an alteration of the Buffer Zone and thus is prohibited unless explicitly allowed by the Commission in an Order of Conditions or Negative Determination of Applicability with conditions.

6. Within 25 feet of an associated Protected Resource Area, there shall be no removal of trees, shrubs or other vegetation unless part of an approved ecological restoration project, including invasive species management.

7. The Commission may require permanent markers at the 25-foot setback line, or to delineate other areas that are not to be disturbed in the future.

8. Where an applicant proposes mitigation for alteration that does not conform with these performance standards, such mitigation must be in a ratio of at least 2:1 of mitigation area to area of nonconforming alteration, or an equivalent level of environmental protection where square footage is not a relevant measure.

Commentary:

The scientific literature related to buffers adjacent to aquatic resources makes it clear that buffers around wetlands are important to the interests set forth in the Lexington Code for Wetland Protection. Naturally vegetated buffers protect the adjacent resource areas by:

- filtering and removing pollutants,
- facilitating groundwater recharge,
- maintaining surface and groundwater flows,
- moderating water temperatures,
- providing essential habitat for wetland wildlife and plant species,
- providing shading and screening,
- preventing or reducing erosion and siltation into wetlands,
- providing flood storage capacity, and
- protecting water quality.

They also:

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- contribute to the reduction and/or prevention of greenhouse gas emissions,
- contribute to climate resiliency,
- provide opportunities for education, and
- enhance aesthetics through viewsheds of natural resources,

Buffer Zones are therefore presumed to be significant to erosion and sedimentation control, prevention and control of flooding, storm damage prevention, protection of water quality and wildlife habitat, and climate resiliency, as well as the protection of other resource area interests identified in the Lexington Code for Wetland Protection. Activities in the Buffer Zone generally have a high likelihood of adverse impact on the associated Protected Resource Area.

The Lexington Code for Wetland Protection provides that the applicant shall have the burden of proving by a preponderance of the credible evidence that the proposed work will not cause significant individual or cumulative harmful effects to the interests at issue. That evidence should address such factors as: condition of the watershed, slope, stream size, soil depth and erodibility, hydrology, floodplains, wetlands, streambank conditions, vegetation type(s), and influences of stormwater systems.

Sediment removal from stormwater runoff is greatly influenced by slope: the steeper the slope, the higher the runoff velocity and volume and the smaller the sediment removal prior to reaching a wetland or stream. Small amounts of sediment entering a stream are normal and indeed required for a healthy stream. However, sediments released from soil disturbance upslope, as from construction, are more than the natural stream processes can handle, especially in small streams. Nearly all of Lexington's streams are headwater streams. Buffer Zones generally have a very large impact on these small streams. Sediments carry pollutants with them and thus a narrower setback increases the likelihood of pollutants reaching the wetland or stream before natural biochemical processes can reduce their adverse effects.

The vegetative and soil conditions of the Buffer Zone are also very important. Native vegetation with undisturbed soils maintains a healthy microbial community that performs important biogeochemical functions that benefit downslope resources. Some of the benefits of naturally vegetated buffers include: protection from erosion, increased removal of nitrogen and phosphorus, removal of stormwater sediment load, reduced downstream flooding, thermal protection, food and habitat for wildlife including fish and amphibians, corridors for habitat conservation, enhanced potential for stream restoration, reduced watershed imperviousness, and fewer drainage problems.

References:

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Semlitsch, Raymond D. and J. Russell Bodie, *Biological Criteria for Buffer Zones around Wetlands and Riparian Habitats for Amphibians and Reptiles*, *Conservation Biology*, 17:5, October 2003.

(6) Pre-Development Conditions

Under these rules and when evaluating compliance with Massachusetts Department of Environmental Protection storm water management policy and standards, the following definitions shall apply:

"Predevelopment" or "existing" conditions shall mean the following:

- When the proposed work consists of additions to development previously constructed on the property that will continue to be in use after the proposed development, "predevelopment" or "existing" conditions shall mean conditions at the time of the proposal.
- When one or more existing structures, portions of structures, or other impervious ground cover on the property are to be demolished, removed, or otherwise taken out of service, "predevelopment" or "existing" conditions shall mean conditions at the time of the proposal except for the footprint of the structures, portions of structures, or other impervious ground cover on the property that are to be demolished, removed, or otherwise taken out of service. Pre-development runoff calculations for the footprint of the portions of structures, or other impervious ground cover on the property that are to be demolished, removed, or otherwise taken out of service, shall be based on open space in good condition (as defined in NRCS TR-55, or equivalent for the Rational Method) using an area-weighted average of soil types on the undeveloped portions of the property. Landscaped portions of the property count as undeveloped for purposes of evaluating soil type.

(7) Replication of Bordering Vegetated Wetlands (or Fresh Water Wetlands)

A. It is the Commission's policy that there shall be no net loss of fresh water wetlands, including marshes, wet meadows, bogs, and swamps.

B. Any proposed work that may alter a fresh water wetland shall not destroy or otherwise impair any portion of the wetland. However, the Commission may issue an Order of Conditions permitting work that results in the alteration of less than 5000 square feet of fresh water wetland, provided the following requirements are met:

1. There is no reasonable alternative to a proposed crossing, utility easement, or roadway drainage structure;
2. All design mitigations, including structures such as headwalls and retaining walls, have been utilized to minimize the alteration of wetlands;
3. A revegetation plan addressing issues of interspersed and diversity of vegetation has been submitted, describing the construction and the amount of recreated fresh water wetland necessary to compensate for that portion that is proposed to be destroyed;
4. The replacement fresh water wetland area must adequately replicate the wetland functions to be lost, and shall be at a 2:1 ratio to the area lost, unless this 2:1 ratio is lowered by Commission based on site conditions. The replacement freshwater wetland shall have an unrestricted hydraulic connection to the same fresh water wetland, waterbody, or waterway associated with the lost area;
5. The replacement area shall be located in the same general area of the fresh water wetland, water body, or reach of the waterway as the lost area;
6. All surface vegetation and contours of the replacement area shall be substantially restored within two growing seasons; and

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7. Excavation and soil preparation of the replacement area shall be completed prior to the commencement of alteration of the area to be destroyed, except for the purpose of replacement in an area being temporarily altered. Where soils and vegetation are to be transferred from the area to be destroyed into the replacement area, said transfer shall immediately follow excavation and soil preparation in the replacement area. Where soils and vegetation are to be imported from sources other than the area to be destroyed, they shall be installed properly in the replacement area prior to commencement of alteration of the area to be destroyed.

(8) Vernal Pools

- A. Protection of vernal pool habitat is essential for the continued survival of certain wildlife species. Destruction of vernal pools and the areas in their immediate vicinity is likely to have significant adverse impact on local amphibian populations for which the pool serves as a breeding site.
- B. Vernal pools may be identified as confined basin depressions that, in most years, contain water for at least eight consecutive weeks during the spring or summer of the year. Vernal pool habitat includes both the maximum annual high water elevation in the vernal pool in a non-drought year, and any land within one hundred feet of the maximum annual high water elevation. The maximum annual high water elevation may be determined by the Commission using one or more of the following types of information:
 1. Certification of the maximum annual high water elevation by the Massachusetts Division of Fisheries and Wildlife, Natural Heritage and Endangered Species Program;
 2. Engineering calculations that are: i) based upon a design storm of 2.7 inches of precipitation in 24 hours; ii) based upon the total volume, rather than the peak rate of run-off, from the drainage area contributing to the vernal pool; iii) based upon the standard methodologies set forth in the U.S. Soil Conservation Services Technical Release No. 55, *Urban Hydrology for Small Watersheds*, and on Section 4 of the U.S. Soil Conservation Service, *National Engineering Hydrology Handbook*; iv) prepared by a registered professional engineer or other professional competent in such matters; and v.) take into account groundwater that the basin is holding at the beginning of the spring amphibian breeding season;
 3. Field observations that include but are not limited to: i) the lowest elevation of the rim of the topographic depression; ii) the maximum observed or recorded water level in the topographic depression in a non-drought year; iii) the presence of water stained leaves or other water-stained objects; iv) the presence of vernal pool indicator species.
- C. Any one of the following will serve to verify the existence of a vernal pool:
 1. The documented presence of water in a confined basin depression for at least eight weeks; and confirmation that the vernal pool area becomes completely dry during a portion of the year;
 2. Documentation providing evidence of the absence of adult fish populations within the depression;
 3. Evidence of reptile, amphibian, mollusk, or invertebrate species in standing water within the basin depression.
 4. Certification by the Massachusetts Natural Heritage and Endangered Species Program.
- D. The presence of any of the following will be considered acceptable proof that a vernal pool is utilized for amphibian, reptile or invertebrate breeding purposes; including but not limited to:
 1. Breeding adults;
 2. Spermatophores (sperm cases);
 3. The presence of egg masses; or
 4. Transforming juveniles.

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- E. Performance Standards for Vernal Pools - A proposed project within 100 feet of a vernal pool shall not result in the following:
1. Discharge of contaminated runoff or runoff that would cause erosion or sedimentation or other impacts in a vernal pool;
 2. Any impairment of the capacity of the vernal pool, as well as the area within 100 feet of the outer edge of the pool, to provide wildlife habitat. (Alterations may be permitted if they will not have an adverse impact on wildlife habitat);
 3. Any adverse effect upon species listed by the Massachusetts Natural Heritage and Endangered Species Program or by Massachusetts Division of Fisheries & Wildlife under 321 CMR 8.00; and
 4. Alteration of the topography, soil structure, plant community composition and structure, and hydrologic regime; insofar as such alteration will, following two growing seasons of project completion and thereafter (or, if a project would eliminate trees, upon the maturity of planted saplings) substantially reduce the vernal pool habitat's capacity to provide the following important wildlife habitat functions:
 - (a) Food, shelter, migratory and breeding areas, and overwintering areas for amphibians; and
 - (b) Food for other wildlife.
- F. Erosion control fencing or hay bales, if used, shall be positioned to function and yet allow access to the vernal pool and to the area within 100 feet of the outer edge of the pool by amphibians during the breeding seasons.
- G. If the Commission determines that a vernal pool having characteristics set forth in the preceding subsections C.1, C.2, C.3, and C.4 is present in or within 100 feet of a proposed work area, the vernal pool and the land within one hundred feet of the vernal pool shall be presumed to provide significant vernal pool habitat functions. This presumption may be overcome only upon a clear showing by the applicant during the public hearing of sufficient credible evidence for the Commission to determine that the pool does not function as vernal pool habitat. Evaluation of vernal pool habitat functions normally requires observations during and after the springtime breeding season. **It is strongly advised that applicants survey sites for potential vernal pool habitat and request a site inspection by the Commission in the springtime prior to filing a Request for Determination, a Notice of Intent, or an Abbreviated Notice of Resource Area Delineation, to avoid postponement until springtime verification can be accomplished.**

(9) Work on Steep Slopes

The purpose of this performance standard is to regulate land use on and disturbance to areas of steep slopes. Past experience and scientific studies have shown that disturbance during development or increased intensity of use after development can cause stable natural slopes to exhibit increased rates of stormwater runoff or increased soil erosion, which can lead to local soil or vegetation loss and downstream sedimentation, which in turn can cause loss of wildlife habitat and degrade water quality.

The term "steep slope" shall mean as follows: any slope equal to or greater than 15 percent as measured over any minimum run of 10 horizontal feet. Slope is defined as the change in ground surface elevation divided by the horizontal distance, stated in terms of a percentage. Slope shall be calculated between successive contour lines, for contour lines with a maximum vertical interval of 2 feet. The horizontal distance shall be measured perpendicular to the contour lines. For example, if the horizontal distance between two successive contour lines with a 2-foot vertical interval is 20 feet, that constitutes a 10 percent slope ($100 \times 2/20 = 10\%$); if the horizontal distance were 13.3 feet, that constitutes a 15 percent slope ($100 \times 2/13.3 = 15\%$); and if the horizontal distance were 10 feet, that constitutes a 20% slope ($100 \times 2/10 = 20\%$). A slope calculation shall be performed at the location of the steepest slope on the site where the topographic contours lines are closest

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together. All areas of the site with slopes greater than 15 percent shall be determined and identified on a site map. Using a 2 foot contour interval, this will be the entire area in which the spacing between contour lines is equal to or less than 13 horizontal feet. . The maximum contour interval shown on the site plans shall be 2 feet. If contours with a smaller interval (such as 1 foot) are used, the distance between contours used to define areas with greater than 15% slopes shall be adjusted proportionately. For example, on a plan with 1 foot contours, the areas of 15% or greater slope will be the area in which the contours are 6.5 feet or less apart (13 x 1/2) Slope calculations shall be stated in terms of values rounded to the nearest 1 percent.

When a proposed activity involves work that will disturb a Steep Slope within a Protected Resource Area, (as defined in Sec. 130-8 of the Code of the Town of Lexington) the Conservation Commission will presume that such disturbance will result in damage to one or more of the interests protected by Chapter 130 of the Code of the Town of Lexington, and will be prohibited. This presumption is rebuttable and may be overcome by a sufficient showing that the disturbance will not result in such damage. Such a showing must include evidence that addresses the specific characteristics of the affected terrain, such as soils, vegetation, depth to bedrock, runoff coefficients, distance from protected resource areas, or other relevant site-specific factors.

The applicant shall demonstrate through site plans depicting proposed development and topography that new disturbance is not located in areas with steep slopes except as provided below.

This performance standard will not apply to the following activities on steep slopes:

1. Maintenance or in-kind replacement of existing impervious surfaces; and
2. New disturbance necessary (a) to protect public health, safety or welfare, with no feasible alternative; (b) necessary linear development with no feasible alternative; (c) to provide an environmental benefit, such as remediation of a contaminated site or stabilization of an unstable slope; (d) to prevent extraordinary hardship to the property owner, due to the peculiar configuration of to a property; or (e) to prevent extraordinary hardship that would not permit a minimum economically viable use of the property based upon reasonable investment, provided that the hardship was not created by the current or prior property owners.

Commentary:

Slope disturbance generally falls into one of three often interrelated types: 1) mechanical reshaping of landforms, 2) change in stabilizing surface cover (vegetation), and 3) altered drainage patterns.

Disturbance of steep slopes results in accelerated erosion caused by stormwater runoff and the subsequent sedimentation in and/or pollution of waterbodies, with associated degradation of water quality and loss of aquatic life support caused by increased water column turbidity and damage to benthic organisms through excessively rapid sedimentation. Related effects include soil loss, changes in natural topography and drainage patterns, increased flooding potential, further fragmentation of forest and habitat areas, and compromised aesthetic values. Increased flooding potential can be caused by both rapid runoff from steep slopes and reduction in hydraulic capacity caused by increased sedimentation. Additionally, the ability of buffer zone vegetation to improve the quality of stormwater runoff is reduced in areas with steep slopes due to the more rapid water movement on steep slopes. For these reasons disturbance of steep slopes should be restricted or prevented based on the impact that disturbance of steep slopes can have on water quality and quantity, and the environmental integrity of landscapes.

SECTION 6. CHANGES IN SUBMITTED PLANS

If, at any time after a Determination of Applicability or Order of Conditions has been issued, there is a change in the proposed activity, the person on whose behalf the work is being done, in the case of a Determination, or the applicant, in the case of an Order, must notify the Commission, in writing or in person, of

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the proposed changes. No work associated with these changes shall be done on the subject area until the Commission has reviewed the changes and issued its decision.

The Commission shall review these changes and determine either:

- (a) that the changes represent a substantial departure from the original proposal and that the potential impacts of the new proposal on the interests identified in the Code are sufficiently different from those of the original proposal as to require the filing of a new Request for Determination or Notice of Intent;
- (b) that the changes involve a substantial departure from the original proposal in only one or two limited respects, and that the Commission will consider amending the original Determination or Order following submission of information on the proposed changes and their potential impacts on the interests identified in the Code and following a public meeting or hearing and notice as required in Sections 4(1) and 4(2) above; or
- (c) that the changes represent an insignificant change in the original proposal and will cause no significant difference in the impact of the activity on the interests identified in the Code, in which case the person proposing these changes may proceed in conformance with them.

The person making this request shall be notified by the Commission of its decision within 21 days of receipt of his request.

SECTION 7. ENFORCEMENT

Any person who violates any provision of the Code, the rules and regulations promulgated under it, or any conditions of a valid Order of Conditions shall be punished by a fine of not more than \$300. Each day or portion thereof of continuing violation shall constitute a separate offense. The Code, these rules and regulations, and all Orders of Conditions may be enforced by any Town Police Officer or other officer having police powers.

The members and agents of the Commission may enter upon privately owned land for the purpose of performing their duties under the Code and these rules and regulations.

When the Commission determines that an activity is in violation of the Code, these rules and regulations, or a final Order of Conditions, the Commission may issue an Enforcement Order. Violations include, but are not limited to:

- (a) failure to comply with a final Order, such as failure to observe a particular condition or time period specified in the Order;
- (b) failure to complete work described in a final Order, when such failure causes damage to the interests identified in the By- Law; or
- (c) failure to obtain a valid Order of Conditions or Extension Permit prior to conducting an activity subject to regulation under the Code.

An Enforcement Order issued by the Commission shall be signed by a majority of the Commission. In a situation requiring immediate action, an Enforcement Order may be signed by a single member or agent of the Commission, provided said Order is ratified by a majority of the members at the next scheduled meeting of the Commission.

SECTION 8. SECURITY

The Commission may require, as a permit condition, that the performance and observance of the

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Order of Conditions be secured by one or both of the following methods:

- (a) By a bond or deposit of money or negotiable securities in an amount and form determined by the Commission to be sufficient to secure the completion of all conservation measures specified in their Order of Conditions; and, the Commission may require that the applicant specify the time within which such construction shall be completed.

The penal sum of any such bond shall bear a direct and reasonable relationship to the expected costs, including the effects of inflation, necessary to complete the sub-work. Such amount or amounts shall be from time to time reduced as is, in the determination of the Commission, necessary to reflect the actual expected costs of the work remaining to be completed.

- (b) By a covenant, executed and duly recorded by the owner of record, running with the land whereby such conservation measures, as are stated in the Order of Conditions, shall be provided before any lot may be built upon or conveyed. A deed of any part of the subject property in violation hereof shall be voidable by the grantee prior to the release of the covenant, but not later than three years from the date of such deed.

The bond or covenant shall, in the case of the bond, be given to the Town, and, in the case of a covenant, be recorded in the Registry of Deeds within 14 days of the granting of the Order of Conditions.

SECTION 9. WAIVER OF REGULATIONS

Strict compliance with these rules and regulations may be waived when, in the judgment of the Conservation Commission, there are no reasonable alternatives and (1) such waiver would serve a substantial public interest, or (2) owing to circumstances related to the particular soil conditions, hydrological conditions or topography of the lot in question, strict compliance with the regulation would result in substantial cost without conferring any appreciable benefit to the interests protected by the bylaw, or (3) in the case of an unimproved lot existing prior to the effective date of the applicable regulation, strict compliance with the regulations would deprive the applicant of any economic use of the applicant's property as a whole, including any present or former property of the applicant that previously incorporated the subject lot. Reasonable alternatives include, but are not limited to, redesigning or scaling back the project, relocating roads or structures, using best available technologies, choosing another land use, or choosing an alternative site. Waivers are intended to be granted only in rare and unusual circumstances. A waiver will not be granted if it will result in any material detriment to the values protected by the by-law or if it is otherwise inconsistent with the intent and purpose of the by-law.

The request for a waiver shall contain a justification of the waiver, including an explanation of how the requested waiver complies with this section and is consistent with the intent and purpose of the by-law.

SECTION 10. SEVERABILITY

If any provision of any part of these rules and regulations or the application thereof is held to be invalid, such invalidity shall not affect any other provision of these rules and regulations.

SECTION 11. EFFECTIVE DATE

These rules and regulations shall take effect upon adoption and shall apply to all Notices of Intent filed on or after that date and any procedures or work conducted pursuant to such filings. They shall not apply to

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any Notice of Intent filed prior to their effective date nor to any extensions of any Order of Conditions, the Notice of Intent for which was filed prior to said effective date.

(Adopted by vote of the Commission on July 30, 1985, unless otherwise noted)

7/30/85

Section 5(3) ("Buffer Zone") repealed 10/7/86

Sections 5(3) and 5(4) added 1/14/87

Technical corrections 12/15/87

Section 5(5) ("Buffer Zone") reinstated/revised 7/21/92

Section 5(1) and 5(2) amended and 5(6) added 1/23/07

Technical corrections; Section 3. Definitions and Section 5(7) and 5(8) Performance Standards added 10/20/14

Section 5(9) Performance Standards - Work on Steep Slopes added 11/27/17

Section 3 Definitions; Section 5(2) Performance Standards - Peak Rate of Runoff; 5(5) Performance Standards - Buffer Zones; Section 9 Waiver of Regulation, and Technical corrections amended 9/13/2021