

## PROPOSED GENERAL WETLANDS BYLAW REGULATIONS REVISIONS

**THE HEARING IS POSTED FOR DECEMBER 18, 2013, TOPSFIELD CONSERVATION COMMISSION MEETING AT THE TOWN LIBRARY CONFERENCE ROOM (meeting to start at 7 p.m.; hearing will be later, as indicated on the agenda).**

### **R:10-2. DEFINITIONS.**

#### *The following definitions are proposed to be added:*

*Drumlin* shall mean a long, smooth, oval hill, mount, or ridge composed of compacted glacial till.

*Erosion Control* shall mean the prevention or reduction of the detachment or movement of soil or rock fragments by water, wind, ice and/or gravity.

*Fragipan* shall mean a loamy, brittle subsurface horizon low in porosity and organic matter, low in clay, and moderate to high in silt and fine sand content. A fragipan appears cemented when dry and restricts the growth of roots and the passage of groundwater.

*LID: Low Impact Development* shall mean a best management practice of controlling stormwater runoff on a property and infiltrating it into the ground by means of landscape features such as, but not limited to: rain gardens, bioretention ponds, and vegetated drainage swales. For more information on LID best management practices access:

<http://water.epa.gov/polwaste/green/index.cfm> and for practical construction advice:  
[http://www.toolbase.org/PDF/DesignGuides/Builder\\_LID.pdf](http://www.toolbase.org/PDF/DesignGuides/Builder_LID.pdf)

*Poorly drained soils* shall mean any of the soils listed in Table 10-2-1 and indicated on the map entitled **Topsfield, MA Areas of Severe Soils Limitations** dated 5/11/2012 and adopted as part of the Topsfield Conservation Commission Regulations hereinafter called the Soils Map as most recently amended (hereafter called the Soils Map).

<b>Poorly Drained Soil Types Listed in the NRCS Soil Survey of Essex County North.</b>			
<b>Soil Type (Series)</b>	<b>Origin</b>	<b>Features</b>	<b>Drainage</b>
Leicester	Upland soils		P
Limerick	Floodplain areas		P
Maybid	Lacustrine		V
Montauk	Upland, glacial till	Fragipan 18" or greater below grade	
Paxton	Drumlins	Well drained, but has a fragipan 18-32 inches below grade	N/A
Pipestone	Outwash plains		M
Raynham	Lacustrine		P
Ridgebury	Drumlins	Fragipan 18" or greater below grade	P
Saco	Floodplains		V
Scantic	Outwash, lacustrine		P
Scarboro	Outwash plains		V
Swanton	Outwash plains		P
Walpole	Outwash plains		P
Wareham	Outwash plains		P
Whately	Lacustrine		V
Whitman	Upland soils	Fragipan 18" below grade	V
Woodbridge	Drumlins	Fragipan 18-24" below grade	M

M: Moderately poorly drained  
P: Poorly drained  
V: Very poorly drained

**Table 10-2-1.**

*Pond* shall have the same definition as contained in 310 CMR 10.04 as amended from time to time.

**R:10-4. PRESUMPTIONS OF SIGNIFICANCE AND PERFORMANCE STANDARDS.**

**The following section is proposed to be added:**

- j. *Stormwater Management.* applicable to *All land proposed for development, redevelopment and additional development contiguous to or containing any resource area under the protection of the Wetlands Protection Act, M.G.L. Ch. 131, §40 (Act) and/or the Topsfield General Wetlands Bylaw, Ch. 62 (Bylaw) [see 62-2 Jurisdiction].*
  - 1. Stormwater run-off directed or channeled into any resource area has the potential of degrading or altering that area as a result of pollution conveyed and/or the deposition of silt and sediments into that area. It is presumed that a fully viable resource area is significant to the interests of the Act and the Bylaw. Therefore any discharge of untreated stormwater directed or channeled into a resource area by any new or repaired stormwater management system shall conform to *all listed standards contained in the Massachusetts Stormwater Management*

**Regulations** adopted by the Mass. Dept. of Environmental Protection as they may be amended from time to time, hereafter called the Stormwater Regulations, and the provisions of 310 CMR-10.05, paragraphs: (k), (m), (n), (p), and (q), as they may be amended over time. Detailed performance requirements of stormwater management systems constructed in compliance with the above standards are found in the **Massachusetts Stormwater Handbook volumes 1-4**, as most recently amended.

2. Any lot proposed for development, redevelopment, or additional development that borders on or contains any resource area protected by the Act and the Bylaw located in the red zone of the Soils Map or on a drumlin shall demonstrate by engineered design that stormwater runoff from the proposed construction would be retained on-site in either bio-retention ponds, rain gardens, drywells, or similarly functioning low impact features. Where that is proved not to be feasible, the drainage system shall be designed to intercept suspended solids and hydrocarbon pollutants using best management practices (BMP's) in conformance with standard four of the Stormwater Regulations prior to being discharged into the resource area.
3. All designs and BMPs managing stormwater runoff shall be sized to accommodate a 100-year storm frequency event without causing erosion or siltation of the retention area.
4. Extreme rain-storm intensity, duration, and frequency (IDF) data for calculations in (3) above shall use the Northeast Regional Climate Center (NRCC) data base available on <http://www.precip.net> under "Data and Products". This data base may be installed in the HydroCAD storm-water run-off model by accessing <http://hydrocad.net/rainfall/pfd.htm> and following the indicated prompts.
5. During the construction of the proposed development and until such time that the disturbed soil has been stabilized appropriately, erosion and sedimentation control measures shall be installed around the perimeter of the construction site in accordance with standard eight of the Stormwater Regulations. Erosion and sedimentation controls for the proposed construction site shall be approved by the Topsfield Conservation Commission or its designated agent prior to the start of any work onsite. All soils stored at the construction site for greater than 24 hours shall be covered by a waterproof tarpaulin or equivalent rainwater protection.
6. No snow removed from parking lots or public ways shall be deposited in any resource area under the jurisdiction of the Topsfield Conservation Commission.

7. All stormwater management systems permitted hereunder shall have operations and maintenance plans approved by the Commission in conformance with standard nine of the Stormwater Regulations.
8. Impervious areas such as driveways, patios, and parking lots shall be graded to facilitate stormwater runoff into adjacent grassy swales or catchment areas. No driveway shall be constructed or modified with a pitch such that runoff is directed onto a public road or street. Wherever possible, vegetated drainage swales and rain gardens shall be located to retain stormwater runoff onsite. The Commission encourages the use of pervious pavement materials such as pavers and porous asphalt. For information on porous asphalt contact: Nat'l Asphalt Pavement Assoc. <http://www.hotmix.org/index.php>
9. As part of new construction and modifications to existing structures, stormwater runoff from all roof drains shall be conveyed into infiltration trenches, drywells, or rain gardens.
10. Developments or construction in Riverfront Areas or Buffer Zones shall be designed to be in conformance with LID practices.
11. As-built plans of stormwater management systems permitted hereunder shall be submitted to the Conservation Commission upon completion of the construction together with a certificate signed by an engineer or professional land surveyor that the system meets the relevant requirements of the Stormwater Regulations. This submission is required at least 14 days prior to the issuance of a Certificate of Compliance by the Commission.

*Current sections R:10-23 and R:10-24 are proposed to be replaced with the following:*

**R:10-23 Pond Management Activities.**

All activities in or within the 100-foot buffer zone of a pond located in Topsfield shall require authorization from the Commission with the filing of an NOI or an application for an Emergency Certification upon a site visit as required pursuant to 310 CMR 10.06, as amended or augmented herein.

Management of ponds may be placed broadly in the following categories: (a) water quality management, (b) aquatic plant control inclusive of control of pioneer infestations (invasive species), (c) dam maintenance, water level control inclusive of dredging of bottom sediments, and maintenance of structures controlling drainage of and recharge into a pond, (d) activities inclusive of construction and landscaping in the buffer zone surrounding the pond, and (e) installing and maintaining beaches and recreational areas.

- (a) **Water quality management.** Maintenance of the buffer zone in accordance with the guidance set forth in the **Massachusetts Buffer Manual** prepared by the Berkshire Regional Planning Commission and adopted by the Massachusetts DEP in 2003 and adopted herein by the Commission shall not require an OOC unless more than four-hundred (400) square feet of buffer zone is to be planted for that purpose (see section d). The installation of aeration equipment in a pond shall require filing an NOI that specifically states the reasons for said installation, the anticipated mitigation sought, a description of the installation procedure inclusive of safeguards installed to control sedimentation and damage to the buffer zone, and a request that the Commission issue an OOC authorizing the project.
- (b) **Aquatic plant control.** Applications for a permit to control aquatic plants shall follow the manual entitled **Guidance for Aquatic Plant Management in Lakes and Ponds** prepared by the Department of Environmental Protection Bureau of Resource Protection Wetlands/Waterways Program (April 2004) and adopted by the Commission herein. An application (NOI) for a permit (OOC) to conduct plant control in a pond shall cite the relevant sections of the manual selected for the application and the reasons for said selection.
- (c) **Dam maintenance and water level control.** Water control structures and dams other than those constructed by beavers and man-made structures erected prior to 1983 are regulated by the Massachusetts Department of Conservation and Recreation (DCR) pursuant to Massachusetts General Laws Chapter 253 and the DCR regulation 302 CMR 10:00. The maintenance and repair of dams and flow control structures in existence prior to 1983 are regulated pursuant to 310 CMR-10.53(3)(i). An application to permit the maintenance, repair and/or improvement (but not substantial enlargement) of a dam or flow control structure(s) and other appurtenant works to such dam or flow control structure(s) shall require the filing of an NOI with the Commission and receiving an OOC from the Commission. The NOI shall contain at a minimum: (1) a description of the current condition of the dam or flow control structure(s), (2) a description of the nature of the proposed repair or maintenance work, (3) all measures taken to mitigate adverse effects on water quality of the pond and its discharge, (4) a description of the required access ways for any needed mechanized equipment, and erosion controls located relative thereto, and (5) a plan for the restoration of the area after the completion of the work. If the pond needs to be drained to facilitate the repair of the dam, the NOI shall contain an assessment of endangered species existing in or near the pond prepared by the NHESP.

The NOI shall also provide a plan for the continuing maintenance of the dam or flow control structure(s) after the repairs and maintenance have been completed. No project will be allowed that may increase the current hydraulic capacity of the pond.

- (d) Activities in the Buffer Zone of a Pond.** Any construction that results in the creation of impervious areas in the buffer zone of a pond shall be prohibited. All landscaping activities shall comply with the guiding examples set forth in the manual cited in section (a) above. Any application (NOI) for landscaping work in a buffer zone of a pond in excess of 400 square feet shall specifically state how the proposed work achieves the manual's stated benefits of a properly designed buffer zone around the pond.
- (e) Installing and maintaining beaches.** The maintenance of public beaches on ponds in Topsfield that have been installed prior to 1983 is regulated pursuant to 310 CMR 10.53(3)(h). All proposed projects that are subject to 310 CMR 10.53(3)(h) that require the alteration of an existing beach inclusive of, but not limited to dredging, filling, sand augmentation, or the installation of rafts and floats shall require the filing of an NOI with the Commission describing in detail the nature of the maintenance work above and below the mean annual high water level of the pond. No fill shall be deposited that decreases the hydraulic capacity of the pond. No fill may be used that lowers the pond's water quality as defined in 314 CMR 4.00. Floating docks, piers, and structures in and below the annual mean high water level shall be free of wood impregnated with copper-arsenate (CCA processed wood). Any fill or sand augmentation shall consider sand size and other characteristics of the natural sands and soils of the area.
- (f) General Permit Application Requirements.** All applications for OOCs pursuant to this section of these Regulations shall, in addition to the specific items listed in sections (a) through (e), provide a plan of the resource area in which the proposed work is located. This plan shall be at a scale of no smaller than 20 feet per inch and shall contain a locus map inset for locating the area within the Town. The plan shall be referenced to the nearest available USGS datum and shall be prepared by a licensed surveyor or a registered professional engineer. All applications shall describe specific measures for sedimentation and erosion control and means for keeping the work area(s) confined to that/those shown on the plan.

A certificate signed by a professional engineer or licensed surveyor that the work complies with all relevant requirements of the Commission's Order of Conditions and, where conditioned, an as-built plan shall be submitted with an application to obtain a Certificate of Compliance from the Commission.

In the event that the Commission in its Order of Conditions for the proposed activity/ies requires continuing operation and maintenance, a plan shall be submitted that describes proposed work required to meet said ongoing operation and maintenance and the proposed frequency of any reports to be submitted thereunder, to be reviewed by the Commission and modified as deemed appropriate, for inclusion as continuing conditions of a Certificate of Compliance.

**R:10-24 Drainage Maintenance Projects.** All activities related to the normally anticipated repair and maintenance of drainage utilities inclusive of drainage channels, culverts, drainage basins, except catch basins that are located in or connected to resource areas protected by the Wetlands Protection Act and the General Wetlands Bylaw are regulated pursuant to 310 CMR 10.53 (3)(k) and these Regulations. Maintenance projects are limited to the repair or replacement of existing drainage utilities. These activities shall not enlarge the hydraulic capacity of stream crossing culverts. All stream crossing culvert repairs and/or replacements shall comply with Condition 21 of the **Department of Army Corps of Engineers General Permit issued to the Commonwealth of Massachusetts**, as amended, Condition 21 being adopted by the Commission hereunder.

(a) All maintenance projects of drainage facilities that are connected to resource areas such as wetlands, or bodies of open water shall require a filing of a NOI with the Commission. The exception to this requirement is the routine cleaning of catch basins. All such NOIs shall be accompanied by a section of the Topsfield GIS map showing the facility proposed for repair. The NOIs shall describe: (1) the current condition of the facility, (2) the intended repair thereof, (3) all measures taken to prevent erosion and siltation of adjacent resource areas, (4) location of any access through resource areas of required mechanized equipment and mitigation efforts to minimize possible damage caused by the transit of the equipment, and (5) all measures proposed to restore the area upon completion of work. Stream crossing culverts shall be replaced in a manner that complies with the US ACE General Permit Standards cited above, as they may be amended over time. Where possible the Commission encourages such culverts to conform to the guidelines set forth in the **Massachusetts Stream Crossing Handbook** prepared by the Executive Office of Energy and Environmental Affairs and the Department of Fish and Game (June 2012), as amended, such Handbook being adopted by the Commission hereunder.

(b) From time to time emergency repairs to drainage facilities may be required. These shall be managed pursuant to the provisions of 310 CMR 10.06, Section 62-12 of the General Wetlands Bylaw and section R:10-6.I of these Regulations. Such emergencies may include but not be limited to flooding of streets as a result of abnormal rainstorms, collapse of culverts under public roads, and beaver or muskrat activity as listed in Massachusetts General Laws c.131, §80A. With respect to emergency actions taken in response to beaver or muskrat activity, any such action shall also require an Emergency Permit by the Topsfield Board of Health, as required by Laws of the Commonwealth.