

Town of Windham

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MEMO

DATE: October 27, 2017

TO: Windham Town Council
THROUGH: Tony Plante, Town Manager
FROM: Ben Smith, Planning Director *BWS*
Cc: Chris Hanson, Director of Code Enforcement
Amanda Lessard, Planner
Jon Earle, P.E., Town Engineer

RE: Proposed changes to Surface Water Protection Ordinance related to Highland Lake water quality

Following up on the Town Council discussion at the meeting on October 24, 2017, staff is submitting the proposed changes to the Chapter 142, the Surface Water Protection Ordinance for the Town Council's consideration.

The proposed changes are attached to this memo:

Surface Water Protection Ordinance

-) Temporary erosion control measures, such as silt fence, bark mulch, or hay, must be doubled up for any project that requires a Soil & Erosion Control Permit or is approved through the Planning Board.
-) Projects that do not get reviewed by the Planning Board are subject to a points-based system that will allow for assurance that stormwater runoff will be treated prior to leaving the site without the need for small projects to hire professionals to design stormwater plans for small projects.

Please note that the Shoreland Zoning Ordinance changes related to the design of new and replacement septic systems in the Highland Lake Watershed will be sent to the DEP for their review and approval before additional town action. The proposed changes to sections 800 and 900 for local projects to meet a higher standard for stormwater review than required by DEP are on hold pending the updated DEP phosphorous loading numbers for Highland Lake.

Town of Windham
Surface Water Protection Ordinance
Chapter 142
From the
Code

Of the

Town of Windham
Adopted
8/13/2002

Effective
11/13/2002

Amended
XX/XX/2017

County of Cumberland
State of Maine

SURFACE WATER PROTECTION ORDINANCE

A. PURPOSE

The purposes of this Ordinance are to prevent and minimize surface water pollution due to phosphorus contained in stormwater runoff from developed areas, to promote preventive measures to improve surface runoff water quality and lessen degradation to receiving watersheds and bodies of water within the Town of Windham to prevent and control water pollution caused by soil erosion and sediment transport resulting from soil disturbance associated with building development, to protect and promote safe and healthful conditions for humanity, and to protect fish spawning grounds, aquatic life, bird and other wildlife habitat in the town.

B. AUTHORITY

This Ordinance has been prepared in accordance with the provisions of Title 38 S435-449 of the Maine Revised Statutes Annotated (M.R.S.A.).

C. APPLICABILITY

This Ordinance applies to all activities which involve filling, grading, excavation or other similar activities which result in unstabilized soil conditions and a permit shall be required and a written soil erosion and sedimentation control plan. The plan shall be submitted to the permitting authority for approval and shall include, where applicable, provisions for:

1. Mulching and re-vegetation of disturbed soil.
2. Temporary runoff control features such as hay bales, silt fencing or diversion ditches.
 - a. Projects within the Highland Lake watershed must incorporate double temporary erosion control measures at the perimeter of the project.
3. Permanent stabilization structures such as retaining walls or riprap.
4. Activities which require site plan approval from the Planning Board are to be prepared in accordance with prevailing best management practices as referenced in the current issue of Maine Erosion and Sediment Control Handbook for Construction: Best Management

Exempt from the requirements of this ordinance are the following:

- a. Activities in the Shoreland Zone which are governed by the Shoreland Zone Ordinance.
- b. Permit applications in subdivisions, which have a Planning Board approved soil erosion and sediment control plan.
- c. Activities wherein none of the area of soil disturbance has a slope steeper than two percent, but it shall be the applicant's responsibility to furnish a topographic survey demonstrating such gradual slope.

K. STORM WATER RUNOFF

1. Construction:

All construction and development shall minimize stormwater runoff from the site in excess of the natural pre-development conditions. Where possible, existing natural runoff control features, such as berms, swales, terraces and wooded areas shall be retained in order to reduce runoff and encourage infiltration of stormwaters. Areas of connected impervious surfaces should be minimized to take full advantage of these features. Where runoff can not be retained on site it shall be reviewed by licensed professionals in this field.

a. Buffers:

Buffers (also know as vegetative filter or filter strips). Within the required setback of the corresponding zone three shall be a vegetative buffer. Excluded from this requirement are all of the commercial zones. This buffer shall consist of landscaping, to include but not limited to, grass, trees, shrubs, and wood chips. Within this buffer access to the property can be made for essential services and driveway access.

b. Drainage ways:

Natural and man-made drainage ways and drainage outlets shall be protected from erosion from water flowing through them. Drainage ways shall be designed and constructed in order to carry water from a twenty five (25) year storm or greater, and shall be stabilized with vegetation or lined with rip-rap

2. Maintenance:

Stormwater runoff control systems shall be maintained as necessary to ensure proper functioning.

3. Plan Required:

When required by this ordinance, the Code Enforcement Officer or the Planning Board, stormwater management plans shall be designed utilizing the most recent approved version of the Cumberland County Soil and Water Conservation Districts and Maine DEP's "Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices and the Maine DEP's Stormwater Management for Maine: Best Management Practices. Completed plans, when required above, may be reviewed by the Cumberland County Soil and Water Conservation District, or other qualified professional firm, agency, or organization..

4. General:

All activities are expected to employ appropriate stormwater management practices regardless of the zone or district they are located in.

5. Additional requirements for projects in the Highland Lake watershed that are not subject to subdivision or site plan review.

- a) The Code Enforcement Officer shall issue a Stormwater and Phosphorus Management Control Permit if the applicant meets or exceeds fifty (50) points based on the following point schedule. The applicant shall submit a Sketch Plan of the lot showing how each of the following point credits or deductions applies to the

proposed development. The Sketch Plan shall show approximate locations and dimensions of each Stormwater BMP, or other measure.

a. Credits

- i. 10 Points for correcting an existing erosion problem on the project site, as approved by the Code Enforcement Officer.
 1. Installing non-structural BMP (vegetation, loam and seed, mulch, etc.)
 2. Installing a structural BMP (woven geotextile mats and fabric, rip rap, etc.)
 3. Installing sediment control barriers until 1 & 2 have been established.
- ii. 10 Points for a building footprint less than 1,500 square feet
- iii. 10 Points for a clearing limitation of less than 20% of the lot, or 15,000 square feet, whichever is less; or 20 Points for a clearing limitation of less than 15% of the lot, or 10,000 square feet, whichever is less
- iv. 15 Points for the installation of rock-lined drip edges or other infiltration system to serve no less than 50% of the new impervious area on the site. Test pit information certified by a Licensed Site Evaluator, Certified Soil Scientists (CSS) or Certified Geologist (CG) must show that one foot of separation exists between the Seasonal High Groundwater Table and the bottom of any proposed infiltration structure. Infiltration systems must be sized to accommodate one inch of runoff from contributing impervious areas within the structure (this will include an assumption of 30% void space in washed stone) and designed in accordance with the details following approved engineering practices and techniques as published by the Maine Department of Environmental Best Management Practices (BMPs)
- v. 25 Points for the installation of rock-lined drip edges or other infiltration system to serve no less than 75% of the new impervious building area on the site. Test pit information certified by a Licensed Site Evaluator, Certified Soil Scientists (CSS) or Certified Geologist (CG) must show that one foot of separation exists between the Seasonal High Groundwater Table and the bottom of any proposed infiltration structure. Soil filtration or infiltration systems must be sized to accommodate one inch of runoff from contributing impervious areas within the structure (this will include an assumption of 30% void space in washed stone) and designed in accordance with the details following approved engineering practices and techniques as published by the Maine Department of Environmental Best Management Practices (BMP's)
- vi. 25 Points for the installation of rain gardens soil filtration system, or wet pond design to serve no less than 50% of the total new impervious area on the site. Rain gardens, soil filter, and wetpond systems shall be sized to accommodate one inch of runoff from contributing impervious areas, and designed in accordance with the details following approved engineering practices and techniques as published by the Maine Department of Environmental Best Management Practices (BMP's)

- vii. 40 Points for the installation of rain gardens soil filtration system, or wetpond design to serve no less than 75% of the new impervious area on the site. Rain gardens soil filter, and wetpond systems shall be sized to accommodate one inch of runoff from contributing impervious areas, and designed in accordance with the details following approved engineering practices and techniques as published by the Maine Department of Environmental Best Management Practices (BMP's).
- viii. 30 Points for a 50 foot wide (no greater than 15% slope) wooded buffer strip, or a 75 foot wide vegetated buffer (no greater than 8% slope) strip located down gradient and adjacent to the developed area, provided there is no channelization within the buffer; or
- ix. 35 Points for a 75 foot wide (no greater than 15% slope) wooded buffer strip, or a 100 foot wide vegetated buffer (no greater than 15% slope) strip located down gradient and adjacent to the developed area, provided there is no channelization within the buffer; or
- x. 40 Points for a 100 foot wide (no greater than 15% slope) wooded buffer strip, or a 150 foot wide vegetated buffer (no greater than 15% slope) strip located down gradient and adjacent to the developed area, provided there is no channelization within the buffer.
- b. Deductions
 - i. 5 Points deducted for a new structure footprint exceeding 2000 square feet, and an additional 5 points deducted for each additional 500 square feet of structure footprint.
 - ii. 5 Points deducted for clearing more than 50% disturbance.
- b) Alternate Means of Calculation. In those cases where the Code Enforcement Officer determines that use of the points system is inadequate to achieve the purposes of storm water and phosphorous management control or is otherwise inappropriate because of particular circumstances of the property, the Code Enforcement Officer may assess conformance with this standard based on the following:
 - a. A licensed State of Maine Professional Engineer or Soil Evaluator or Certified Profesional in Soil and Erosion Control certifies that the proposed treatment measure matches or exceeds the performance of the treatment measure under the specific point system allowance. It shall be the engineer's responsibility to provide evidence that the measure has been approved by the Maine Department of Environmental Protection or provides other certification into comparable treatment by professional testing results.

L. CONDITIONS OF PERMITS

Permits granted under this section may be made subject to additional conditions or restrictions to ensure conformity with the purposes and provisions of this chapter. Each application for a building permit shall be accompanied by the building permit fee set by the Town. Each application to the Code Enforcement Officer for a permit to erect a new building or structure or to enlarge or to move an existing one shall be accompanied by a site plan showing the measurements of the lot and of all buildings, driveways, yards and parking spaces, drainage ways, storm drains, streams existing