

Model Ordinances for Steep Slopes

Land Conservation Regulations (Town of Livonia, NY)

Steep Slopes Ordinance (Town of Cortland, NY)

New York

Law

Open Space Preservation, Natural Resource Protection, Scenic Resources, Historic Preservation, Floodplain Regulation, Erosion & Sedimentation Control, Steep Slope Protection, Watershed Protection

EPA Region 2

Municipality- Town of Livonia

Land Conservation

Summary

This law outlines the Town's procedure for creating Land Conservation Areas, and for protecting these areas from potentially harmful development. These areas were created on the basis of a soil and existing land use survey, and have been grouped in to seven categories, which include: natural forest/woodland, wetland, steep slope, floodplain, major scenic overlook, stream corridor, watershed and sites of historical/archaeological significance.

Law

Town of Livonia NY Land Conservation

Code of the Town Of Livonia NY

Chapter 150: Zoning

Article VII: Regulations Applicable to All Zoning Districts

General Code

§ 150-68. Land conservation.

- A. Intent. The purpose of this land conservation section is to delineate and help to protect areas in Livonia where substantial development of the land, including changing the character or use of, may cause ecological harm, create a public health or safety problem or degrade significant community features, such as scenic views or sites of historic or archaeological significance. Special or unusual conditions of topography, drainage, soil permeability, floodplain or other natural conditions and the lack of proper facilities or improvements may result in the land not being suitable for development at the present time.
- B. Derivation. Land conservation areas in Livonia have been derived generally on the basis of soils and existing land use studies and data and have been mapped to identify the following specific conservation areas: natural forest/woodland, wetland, steep slope, floodplain, major scenic overlook, stream corridor, watershed and sites of historical/archaeological significance. The above mapped conservation areas are official supplemental guides to the Zoning Map to be used by Livonia in ascertaining

what special conditions, if any, should be imposed or precautions taken before allowing development to proceed.

C. Procedure for processing zoning permits using conservation areas maps. Whenever an application is made for a zoning permit in Livonia, the Code Enforcement Officer shall proceed as follows:

- (1) Identify the approximate location of the proposed building site and/or use and check to see if the site is situated in one or more of the mapped conservation areas.
- (2) If the applicant's proposed development or use is found to be located well outside of any identified conservation area shown on the supplemental map **Editor's Note: The supplemental map is on file in the Building and Zoning Department.**, the Code Enforcement Officer may issue a zoning permit, provided that all other requirements and conditions of the chapter are met.
- (3) If the applicant's property is found to be located completely or partially within one or more of the mapped conservation areas or bordering thereon, the Code Enforcement Officer shall accompany the applicant to the site to confirm the exact location and existing physical conditions.
- (4) If the Code Enforcement Officer confirms the location of the proposed development and/or use within any of the conservation districts, the activity proposed shall be subject to review by the Joint Planning Board in accordance with the site plan review requirements of Article XIV and the standards of this section.

D. The following is a list of the mapped land conservation areas and relevant review standards.

- (1) Forest/woodland.
 - (a) Whenever possible, the site plan shall be so designed as to minimize the number of trees 30 feet and over in height which would have to be removed or would otherwise disturb the forest floor.
 - (b) Activities, such as subdivisions, campgrounds, mobile home parks and most commercial or industrial uses, shall be guided in their layout by a qualified forester or landscape professional.
- (2) Wetland.
 - (a) Development activities in wetland and wetland buffer areas shall be regulated by state and federal permit requirements.
 - (b) The development and/or use shall be designed so as not to disturb the natural function and process of the wetland.
- (3) Steep slope.
 - (a) The site plans submitted to the Joint Planning Board for review shall be prepared by a licensed architect or professional engineer and engineered specifically for the steep slope where the building will be placed.

- (b) Architectural design of the house or structure shall be such as to minimize the amount of cutting into the embankment, general grading and removal of vegetative cover. A rectangular-shape structure which can be placed parallel to the contour of the hill and/or designing a cantilevered structure for maximum exposure above the ground is acceptable.
 - (c) Location of driveway, walkway, accessory buildings and structures and general grading shall minimize disturbance of steep slope areas and potential for erosion.
 - (d) Terracing, sodding, planting and the construction of retaining walls shall be performed as found necessary.
- (4) Floodplain. In accordance with National Flood Insurance specifications and Chapter 80 of the Code of the Town of Livonia or Chapter 93 of the Code of the Village of Livonia, the following conditions shall apply:
- (a) Structures shall be designed and anchored to prevent the flotation, collapse or lateral movement of the structure or portion of the structure due to flooding.
 - (b) Construction materials and utility equipment that are resistant to flood damage shall be used.
 - (c) Construction methods and practices that will minimize flood damage shall be used.
 - (d) Adequate drainage shall be provided in order to reduce exposure to flood hazards.
 - (e) Public utilities and facilities shall be located on the site in such a manner as to be elevated and constructed to minimize or eliminate flood damage. Such utilities and facilities include sewer, gas, electrical and water systems.
- (5) Major scenic overlook.
- (a) No identified major scenic overlook shall be seriously threatened by any proposed new construction if the Joint Planning Board determines that a reasonable alternative exists. This may include the modification of the architectural design or relocation of the building site.
 - (b) If no reasonable alternative, as defined in Subsection D(5)(a) above, exists, site plan review approval may be withheld up to but no longer than 120 days, during which time a municipal agency or a philanthropic organization can be given the opportunity to preserve the site by acquisition or other means.
- (6) Stream corridor. These regulations shall apply to streams shown on the Livonia base map and to any major drainageway.
- (a) No new public road or private road shall be located within 25 feet of the mean high-water mark except for such portions as are necessary for

crossing the stream. Where alternative access to the other side of the stream is available, new crossings shall be discouraged.

- (b) New structures, except for fences, bridges and fishing parking areas, shall not be constructed within 25 feet of the mean high-water mark.
- (c) A buffer strip consistent with the following standards shall separate all new structures, except fences, bridges and fishing parking areas, from the stream.

Slope of Land	Degrees from Horizontal (feet)	Width of Buffer Strip in Critical Area from Mean High Water Mark
		50
10	6	90
20	12	130
30	17	170
40	23	210
50	26	250
60	31	290
70	35	330
80	39	370
90	42	410

Source: Hartung, R.E., and Kress, S.W.; Woodlands of Northeast, United States Department of Agriculture (USDA), Soil Conservation Service (SCS), and Forest Service, Philadelphia, Pennsylvania, 1977.

- (d) New structures and roads shall be designed and constructed in accord with erosion control standards and stormwater control standards contained in the supplemental stream conservation resource document. Refer to erosion and sediment control best management practices (BMP's) and stormwater management BMP's from pages 65 to 93 in Chapter 6 of the New York State Department of Environmental Conservation (NYSDEC) Stream Corridor Management Manual.
- (e) Within the buffer strip identified hereunder, woody shrubs and trees shall be retained sufficient to maintain the stability of the stream bank and to minimize stream bank erosion and direct runoff. Forest management roads or skid trails shall not be allowed inside the mean high-water mark, except at necessary stream crossings, and they shall be allowed at a distance from the mean high-water mark that is consistent with the following criteria for establishing buffer strips for logging areas.

Slope of	Degrees From	Width of Buffer Strip for
----------	--------------	---------------------------

Land	Horizontal	Logging Areas (feet)
		50
10	6	50
20	12	65
30	17	85
40	23	106
50	26	125
60	31	145
70	35	165
80	39	185
90	42	205
100	45	225

Source: Hartung, R.E., and Kress, S.W.; Woodlands of Northeast, USDA, SCS, and Forest Service, Philadelphia, Pennsylvania, 1977.

- (f) To protect the water quality, bed and banks of a stream from the impacts associated with logging, no more than 1/3 of the timber will be removed in a ten-year period within the buffer strip designated under Subsection D(6)(e) above. A professional timber harvesting program is required, including restoration measures for disturbed land and skid trail. A letter of credit may be required if deemed necessary by the governing board.
 - (g) Diseased vegetation and rotten or damaged trees or other vegetation presenting safety, environmental or health hazards may be removed. Firewood for personal use may be removed, within the limits of Subsection D(6)(f) above.
- (7) Conesus and Hemlock Lake Watersheds.
- (a) New structures shall be designed and constructed in such manner as to avoid undue adverse environmental impacts and in accord with erosion control standards and stormwater control standards contained in the supplemental stream conservation resource document. Refer to erosion and sediment control best management practices and stormwater management best management practices from pages 65 to 93 in Chapter 6 of the NYSDEC Stream Corridor Management Manual.
 - (b) Storm sewer outlets shall not be made directly to lakes, impoundments, streams or their tributary watercourses, without other treatment as specified in current engineering design criteria. Provision shall be made to discharge to the surface at least 100 feet from lakes, impoundments, streams and their tributary watercourses.

- (c) The dumping of more than two cubic yards of snow removed from streets, road and parking areas directly into lakes, reservoirs, impoundments or streams is prohibited.
- (d) Animal wastes.
 - [1] No concentration of animal wastes from an agricultural operation, including but not limited to manure piles, feedlots, barnyards and yarding areas, shall be located within a linear distance of 250 feet from any lake, reservoir, impoundment or watercourse.
 - [2] Barnyards, feedlots, yarding areas and manure piles shall be separated from streams and water bodies by ditches or surface grading to prevent their runoff from entering streams and water bodies.
 - [3] Drainage from barnyards, feedlots, yarding areas or manure piles shall not be discharged directly to a lake, reservoir, impoundment or watercourse. Such drainage shall be dispersed over the surface of the ground at a minimum distance of 250 linear feet from any lake, reservoir, impoundment or watercourse.
 - [4] Provision shall be made for satisfactory disposal of milk house waste either by surface or subsurface irrigation that prevents any discharge to any lake, reservoir, impoundment or watercourse. Such facilities shall be located at least 100 linear feet from the lake, reservoir, impoundment or watercourse.
- (e) Industrial sludge and toxic chemicals. Toxic chemicals shall not be buried in the soil, spread upon the surface of the ground or allowed to enter surface waters.
- (f) Fertilizer use.
 - [1] Open storage of chemical fertilizers for commercial use is prohibited.
 - [2] Fertilizer use for all applications shall be in accordance with best management practices.
- (g) Pesticide and herbicide use.
 - [1] Use of lakes, reservoirs or streams for makeup water or washing of equipment is prohibited.
 - [2] Pesticides and herbicides shall be used in accordance with label instructions.
- (h) Stockpiles.
 - [1] Storage of chloride salts is prohibited within a linear distance of 500 feet of a lake, reservoir, impoundment or watercourse, except in weatherproof buildings or watertight vessels.
 - [2] Calcium chloride shall be used instead of sodium chloride where

possible to limit sodium input to area waters.

- (i) All land-disturbing activity, including general construction, highway construction, access road construction and maintenance, is prohibited except where remedial measures have been put in place to minimize erosion and sediment production as per the standards of the Livonia Design Criteria and New York State Guidelines for Stream Corridor Management and Erosion and Sediment Control.
- (8) Sites of historic or archaeological significance. No sites of historic or archaeological significance shall be seriously threatened by any proposed new construction if the Joint Planning Board determines that a reasonable alternative exists. This may include the modification of the architectural design or relocation of the building site.

Appendix B – Steep Slope Model

TOWN OF _____

ARTICLE _____ - STEEP SLOPE REGULATIONS

Section 1. Title.

Steep Slope Regulations and Districts - Amendment to the _____ Zoning Ordinance of the Town of _____.

Section 2. Purpose and Intent.

The purpose of the Steep Slope Regulation is to protect and manage slopes with grades of 15% or more in order to:

- A. Minimize erosion, pollution and environmental damage;
- B. Reduce soil, pavement and building subsidence;
- C. Ensure proper emergency access;
- D. Comply with New York State Pollution Discharge Effluent System (SPDES) permit requirements; and
- E. Preserve and enhance, to the extent practicable, public scenic views as identified in the Comprehensive Plan for the Town of _____ therefore,

Include subsection E only if the municipality has identified such views

Section 3. General Provisions.

- A. Steep Slopes Area Designation. The Town of _____ has adopted as part of its Official Town Zoning Map, the Steep Slopes Overlay District. This district identifies and categorizes lands exhibiting slopes in three categories: 1) less than 15%; 2) between 15% and 50%; and 3) greater than 50%.
- B. No construction, grading, excavation or other development, except for non-tillable farming purposes, is permitted on any land with slope of fifty percent (50%) or greater. Any construction, grading, excavation, or other development of land with a slope of more than fifteen percent (15%) but less than fifty percent (50%) shall conform to these Steep Slope Regulations. An exception is granted for farming purposes using standard farming practices.
- C. No driveway, vehicular access lane, or private road may be constructed that exceeds 15% slope for more than 5% of its total length.

D. Any parcel that falls in whole or in part in a Steep Slope Overlay District shall be considered to contain steep slopes any construction, grading, excavation, or other development on such a parcel shall require a Steep Slopes Permit. Determination of the status of a particular parcel shall be made by the Code Enforcement Officer.

E. Submission Requirements. Applicants for Steep Slope Permits shall submit the following information in writing to the Code Enforcement Officer (CEO) to begin the review process:

Note: Towns may wish to modify these submission requirements; however consistency throughout the watershed can help developers understand the regulations.

1. Development in steep slope areas requires the minimum lot size for that district plus any additional acreage that may be needed to comply with proper engineering requirements.
2. Plans to minimize flooding by maintaining storm water runoff to pre-development levels. Strict adherence to the technical standards (see Section 3, Subsection H) shall be required.
3. Plans to limit the amount of pollution transported by storm water at predevelopment levels.
4. Plans to minimize decreases in groundwater recharge and stream base flow.
5. Plans to maintain existing stream and drainage geometry.
6. Plans to minimize and control erosion and sedimentation

F. Verification of compliance with the requirements of the NYS Department of Environmental Conservation State Pollutant Discharge Elimination System (SPDES) General Permit for Construction Activities General Permit (GP) 02-01 or as amended or revised.

G. A plan prepared by a licensed professional engineer showing and certifying the following:

1. All existing and proposed natural and artificial drainage courses and other features for the control of drainage, erosion and water.
2. The calculated volume and velocity of water run-off from the slopes and from the lot in question, as unimproved.
3. The calculated volume and velocity of water run-off from the slopes and from the lot in question, as improved.
4. The existence, location, and capacity of all natural and artificial drainage courses and facilities within five hundred feet (500') of the lot, which are or will be used to carry or contain the water run-off from the slope and the lot.

5. The effect of any increased water run-of on all adjacent properties and any other property which will be materially affected by increased water run-off and infiltration.
6. Subsurface geology and hydrology that would impact the proposed development or downstream or adjacent properties.

H. Technical Standards

1. For the purpose of this zoning law, the following documents shall serve as the official guides and specifications for stormwater management. Stormwater management practices that are designed and constructed in accordance with these technical documents shall be presumed to meet the standards imposed by this law:
 - a. *The New York State Stormwater Management Design Manual* (New York State Department of Environmental Conservation, most current version or its successor, hereafter referred to as the Design Manual)
 - b. *New York Standards and Specifications for Erosion and Sediment Control*, (Empire State Chapter of the Soil and Water Conservation Society, 2004, most current version or its successor, hereafter referred to as the Erosion Control Manual).

Section 4. Erosion and Stormwater Control.

- A. A Stormwater Pollution Prevention Plan (SWPPP) for development in the Steep Slope Overlay District shall be submitted to the Town of _____ in connection with any application for a Site Plan, Subdivision proposal, Building Permit, Special Use Permit or Variance. (Note: a SWPPP may be required for development in the town not falling within the Steep Slope Overlay District criteria)
- B. A Stormwater Pollution Prevention Plan (SWPPP) shall contain provisions to control erosion and sedimentation and reduce the impacts of stormwater; stormwater infiltration and runoff from the site based on best management practices. The objective of such practices is to maintain or reduce the impact of stormwater, stormwater infiltration and run-off from the site and to prevent soil erosion. Such practices are described in the technical standards (see Section 3, Subsection H).

Alternative principles, methods and procedures may be used with prior approval of the Town of _____ based upon a favorable recommendation from all of the following: 1) Town Engineer (staff)/Town's Consulting Engineer; 2) County Soil and Water Conservation District; 3) Canandaigua Watershed Inspector

Wherever possible, erosion shall be prevented by minimizing disturbance to existing land cover. The Stormwater Pollution Prevention Plan (SWPPP) shall contain the following:

1. Background information about the scope of the project, including location, type and size of project.
2. Site map/construction drawing(s) for the project, including a general location map. At a minimum, the site map should show the total site area; all improvements; areas of disturbance; areas that will not be disturbed; existing vegetation; on-site and adjacent off-site surface water(s); wetlands and drainage patterns that could be affected by the construction activity; existing and final slopes; locations of off-site material, waste, borrow or equipment storage areas; and location(s) of the stormwater discharges(s);

[Site map should be at a minimum 1:100 or greater detail (e.g. 1:50 is greater detail than 1:100)]

Note: Towns can require maps in greater detail.

3. Description of the soil(s) present at the site;
4. Construction phasing plan describing the intended sequence of construction activities, including clearing and grubbing, excavation and grading, utility and infrastructure installation and any other activity at the site that results in soil disturbance. Consistent with, and in addition to, the *New York Standards and Specifications for Erosion and Sediment Control* (Erosion Control Manual), not more than one-quarter (1/4) acre shall be disturbed at any one time unless pursuant to an approved SWPPP.
5. Description of the pollution prevention measures that will be used to control litter, construction chemicals and construction debris from becoming a pollutant source in stormwater runoff;
6. Description of construction and waste materials expected to be stored on-site with updates as appropriate, and a description of controls to reduce pollutants from these materials including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response;
7. Temporary and permanent structural and vegetative measures to be used for soil stabilization, runoff control and sediment control for each stage of the project from initial land clearing and grubbing to project close-out;
8. A site map/construction drawing(s) specifying the location(s), size(s) and length(s) of each erosion and sediment control practice;
9. Dimensions, material specifications and installation details for all erosion and sediment control practices, including the siting and sizing of any temporary sediment basins;
10. Temporary practices that will be converted to permanent control measures;

11. Implementation schedule for staging temporary erosion and sediment control practices, including the timing of initial placement and duration that each practice should remain in place;
12. Maintenance schedule to ensure continuous and effective operation of the erosion and sediment control practice;
13. Name(s) of the receiving water(s);
14. Delineation of SWPPP implementation responsibilities for each part of the site;
15. Description of structural practices designed to divert flows from exposed soils, store flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site to the degree attainable; and
16. Any existing data that describes the stormwater runoff at the site.

Note to Towns adopting this zoning amendment: the State model law mandates that commercial developments of 1 acre or more disturbance and residential developments of 5 acres or more disturbance include all 24 items in this list of SWPPP components. All other developments needing a SWPPP need only provide items 1-16. The Canandaigua Lake Watershed Land Use Subcommittee (LUSC) recommends lowering the State's threshold for SWPPP components. The LUSC recommends that all development (commercial and residential) within the Steep Slope Overlay that disturbs 1 acre or more must include all 24 items on its SWPPP; all development (commercial and residential) that disturbs between 0 and 1 acre must include items 1-16. Towns adopting this zoning amendment can ultimately set the thresholds at their discretion as long as they are equal to or more stringent than the State model.

17. Description of each post-construction stormwater management practice;
18. Site map/construction drawing(s) showing the specific location(s) and size(s) of each post-construction stormwater management practice;
19. Hydrologic and hydraulic analysis for all structural components of the stormwater management system for the applicable design storms
20. Comparison of post-development stormwater runoff conditions with pre-development conditions
21. Dimensions, material specifications and installation details for each post-construction stormwater management practice;
22. Maintenance schedule to ensure continuous and effective operation of each post-construction stormwater management practice.

23. Maintenance easements to ensure access to all stormwater management practices at the site for the purpose of inspection and repair. Easements shall be recorded on the plan and shall remain in effect with transfer of title to the property.

24. Inspection and maintenance agreement binding on all subsequent landowners served by the on-site stormwater management measures.

C. The Town of _____ Planning Board shall refer the Stormwater Pollution Prevention Plan (SWPPP) to a qualified engineering consultant and/or to the County Soil and Water Conservation District for professional advice concerning compliance of the plan. The Town of _____ shall not approve the Special Use Permit, Site Plan or Subdivision Application unless it finds that the Stormwater Pollution Prevention Plan (SWPPP) complies with this section.

Section 5. Review Process.

To the extent practicable, Steep Slopes Permit reviews shall run concurrently and be coordinated with other local approvals.

A. Pre-application Sketch Plan: The applicant is encouraged to present a sketch plan of the proposal to the Planning Board for informal review and discussion. The Planning Board is not authorized to and shall not take any formal action on sketch plans.

B. Final Decision: Findings of fact must be made by the Planning Board for all decisions to approve, deny, or modify steep slope permits. "Findings" are a written description of facts relevant to and in support of the decision made and shall be made part of the public record. No Steep Slopes Permit shall be granted unless it is consistent with this zoning law.

C. Provisions for Inspection: A Steep Slopes Permit may be approved only after physical inspections of the property have been made by the Town at the times and in the manner described below. The applicant shall arrange with the Town of _____ Code Enforcement Officer (CEO) for scheduling of the following inspections:

1. Initial inspection: prior to final approval of the requested Steep Slopes Permit.
2. Erosion Control Inspection; to ensure erosion control practices are in accordance with the approved plan.
3. Bury Inspection; prior to backfilling of any underground drainage or stormwater conveyance structures.
4. Final Inspection: when all work, including construction of stormwater management facilities, has been completed.
5. Annual Report: for any development that includes permanent post-construction stormwater facilities, the owner shall maintain a maintenance record and submit it

annually to the CEO. The CEO retains the right to access and inspect such facilities.

Section 6. Sureties

- A. **Completion of Work:** To ensure compliance with all requirements of an approved permit, the Town Board may require the applicant to provide a performance guarantee or surety, prior to construction in the form of a performance bond, escrow account certification, or irrevocable letter of credit from an insured financial institution. The guarantee shall be for the full cost of all work to be performed on the property subject to the permit and shall be payable solely to the Town of _____. The Town Board shall determine the amount based on the final design plans and actual construction costs.

- B. **Maintenance of Facilities:** Where stormwater management and erosion control facilities are to be operated and maintained by the developer, or by a corporation that owns or manages the development, the Town Board shall require the developer to provide the Town of _____ with a performance guarantee/surety in the form of a performance bond, escrow account certification, or irrevocable letter of credit from an insured financial institution, payable to the Town of _____ to ensure maintenance of all stormwater management and erosion control facilities which have been approved for the Steep Slopes Permit during the life of the facility.

- C. **Duration:** Sureties will remain in force until the Town of _____ releases the responsible party from liability. All accrued interest in any surety account shall be reinvested to the benefit of the account and may be applied only to the purposes originally established for the surety until the Town of _____ releases the responsible party from liability.

- D. **Compliance Failure:** If the developer or owner fails to perform as required under the permit, the Town of _____ may draw any portion of the amount guaranteed for the purpose of work in default under the permit. If the developer, owner or other named responsible party fails to maintain facilities as required, the Town of _____ may draw any portion of the amount guaranteed to pay the costs of operation and maintenance of permitted facilities.

- E. **Costs:** In addition to application fees, the costs of reviewing plans by legal, engineering, planning consultants, and outside agencies, and inspecting sites for compliance, shall be paid by the applicant.