

# Erosion and Sediment Control Ordinance

## A. EROSION AND SEDIMENT CONTROL

Erosion of soil and soil particles by water, wind, ice or gravity can occur whenever the surface of the ground is disturbed by a development activity. Erosion control practices are intended to prevent the onset of erosion while sedimentation control practices are necessary to compensate for erosion control practices that are not effective.

Erosion can be minimized by:

- Diffusing storm water where possible rather than concentrating it in ditches and culverts
  - Where water cannot be diffused, directing it to culverts and stabilized ditches of adequate capacity and diverting it around disturbed areas
  - Minimizing the area of exposed soil at any time
  - Minimizing the creation of steep "cut" or "fill" slopes during construction but where unavoidable, stabilizing slopes as soon as possible after disturbance
  - Preserving natural vegetative buffers between construction areas and water bodies
- Maintaining maximum setbacks between construction and water bodies  
Mulching bare soil immediately after disturbance  
Reseeding as soon as possible

All projects Over 100 sq/ft of disturbed ground that requires a building permit from the Code Enforcement Officer or review and approval by the Planning Board shall conform to the requirements of Section I or 11, below, as applicable.

## SECTION I.

Section I projects are classified as a project where there is ground disturbance of more than 100 sq/ft and less than or equal to 40,000 square feet of cumulative disturbed ground including where soil is stored.

The applicant shall submit an Erosion and Sedimentation Control Plan prepared in conformance with Section II projects or in conformance with the following requirements.

1. The Erosion and Sedimentation Control Plan shall include graphic and written plans and shall conform to the development standards in Section I.C, below.

A. The graphic plan shall include the following:

- i. Grades or direction of slope on the site; slopes over 25% shall be identified
- ii. Areas that will be re-graded or where vegetation will be removed or disturbed

- iii. Locations of temporary erosion control measures such as silt fence, sediment basins, check dams or diversion ditches
- iv. Locations of permanent erosion control measures such as grassed or rip rapped ditches, plunge pools, ponds, berms or subsurface drainage structures
- v. Areas that will be mulched and reseeded
- vi. Locations where topsoil will be stockpiled
- vii. Locations and composition of buffer strips to water bodies
- vii. Existing and proposed culverts and sizes

B. The written plan shall include the following:

- i. Description of plans for temporary seeding in conformance with U.S.D.A. standards or Appendix A, or recommendations from a certified professional in erosion and sediment control.
- ii. Description of plans for permanent seeding in conformance with U.S.D.A. standards or Appendix B, or recommendations from a certified professional in erosion and sediment control.
- iii. Description of plans for temporary mulching in conformance with U.S.D.A. standards or Appendix C, or recommendations from a certified professional in erosion and sediment control.
- iv. Description of plans for temporary runoff control such as silt fencing or diversion ditches in conformance with U.S.D.A. standards or recommendations from a certified professional in erosion and sediment control.

C. The Erosion and Sedimentation Control Plan shall meet the following development standards:

- i. A site shall be developed in such a way as to minimize erosion.
- ii. Areas to be stripped or re-graded shall be protected by temporary erosion control measures.
- iii. Temporary seeding and mulching shall be applied as soon as possible to exposed areas being developed but in no case more than 1 week from the time they were last actively worked.
- iv. Until a disturbed area is stabilized, sediment in water shall be trapped in a sediment basin or similar erosion control structure.
- v. Within 15 days of reaching final site grades, permanent seeding and erosion control shall be completed for all areas to be re-vegetated.
- vi. On slopes greater than 25%, there shall be no grading or filling within 100 feet of the normal high-water mark except to protect the shoreline and prevent erosion.
- vii. The applicant is responsible for maintenance of all aspects of temporary and permanent erosion control.
- viii. Topsoil and fill stockpiles shall be at least 50 feet from all water bodies and protected by suitable erosion control measures.

## **SECTION II - PROJECTS**

Section II are classified as projects where there is ground disturbance of greater than 40,000 square feet of cumulative disturbed ground including where soil is stored.

An erosion and sedimentation control plan shall be prepared in accordance with the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, latest revision, prepared by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection, which is incorporated herein by reference and made a part thereof. The plan shall be prepared either by a professional civil engineer or by a Certified Professional in Erosion and Sediment Control (CPESC). At a minimum, the following items shall be discussed and provided:

1. The name, address, and telephone number of the applicant.
2. The name, address, and telephone number of the person responsible for implementing the plan.
3. A vicinity map showing the location of water bodies that may be affected by erosion and sedimentation from the project.
4. Existing and proposed drainage patterns, including drainage channels that drain to surrounding water bodies.
5. A sequence of work that outlines how the project will be constructed and specifically addressing how soil disturbance will be minimized during the construction process.
6. Clear definition of the limits of work and any buffer areas that will remain undisturbed and an indication of how these areas will be protected during construction.
7. Description of temporary and permanent erosion control practices that will be used.
8. Identification of the locations of the temporary and permanent erosion control practices.
9. Identification of how, where and when collected sediment will be disposed.
10. Dust control measures.
11. Inspection and maintenance procedures, including schedule and

frequency by the person responsible for implementing the plan.

12. Description of when and how temporary and permanent erosion and sedimentation control practices, as applicable, will be removed.

The Planning Board or CEO may require the review and endorsement of this plan by the Knox-Lincoln Soil and Water Conservation District at the applicant's expense.

## Appendix A Temporary Seeding

Temporary seeding is for areas that will not be fine graded for up to one year and is to be applied as follows:

1. Establish erosion and sedimentation control as shown in the graphic and written plans.
2. Loosen soil to a depth of 2 inches
3. Apply 13.8 lbs. of 10-1 0-10 fertilizer and 138 lbs. of limestone per 1,000 sqft. An equivalent mix may be substituted based on the results of soil testing.
4. Apply seed and temporary mulch (see Appendix C) as follows (for hydro seeding, increase seed rate by 10%). If seeding during these time periods is not possible, applicant must submit a written plan in conformance with requirements for temporary mulching in Appendix C.

Seeding Dates	Seeds	Pounds/1,000 sqft.	Seeding Depth
April 1 - July 1	oats	1.8	1"-1.5"
	annual ryegrass	0.9	.25"
May 15 - Aug. 15	Sudan grass	0.9	.5"-1"
Aug.15 -Sept. 15	winter rye	2.6	1"-1.5"
	oats	1.8	1"-1.5"
	perennial	0.9	.25"
Sept. 15 - Oct.1 <sup>st</sup>	winter rye	2.6	1"-1.5"

The applicant may propose alternative seeding in conformance with the recommendations of the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices latest revision, prepared by the Knox Lincoln County Soil and Water Conservation District and the Maine Department of Environmental Protection.

## **Appendix B     Permanent Seeding**

Permanent seeding is for areas that require permanent vegetative cover to stabilize the soil or where rough-graded areas will not be fine-graded for more than one year and is to be applied as follows:

1. Establish erosion and sedimentation control as shown in the graphic and written plans.
2. Loosen soil to a depth of 4 inches.
3. Apply 18.4 lbs. of 10-20-20 fertilizer and 138 lbs. of limestone per 1,000 sqft. An equivalent mix may be substituted based on the results of soil testing.
4. Remove surface stones 2" and larger and other debris. Till soil until a fine seedbed is prepared and ensure it is not compacted prior to seeding.
5. Apply seed and temporary mulching (see Appendix C) between spring and 45 days prior to first killing frost except dormant seeding, which is applied after first killing frost and before snowfall. If seeding during these time periods is not possible, applicant must submit a written plan in conformance with the requirements for temporary mulching in Appendix C. For hydro seeding, increase seed rates by 10%.
6. If mowing is required, apply mix of 0.46 lbs. creeping red fescue, 0.46 lbs. tall fescue and 0.05 lbs. redtop per 1,000 sqft. except for camping and parking areas, shaded nature trails, lawns and high maintenance areas in which case apply 2.30 lbs. of creeping red fescue per 1,000 s.f. For gravel pits, sand dunes or tidal areas, refer to applicable best management practices in Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, latest revision, prepared by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection.

7. If mowing is not required, apply the following mixes:

<u>Location</u>	<u>Seed Mix per 1,000 square feet</u>	
Slopes and banks, gullied and eroded areas, Fresh water shorelines	reed canary grass	.46 lbs.
	redtop	<u>.11 lbs.</u>
		.57 lbs.
Drainage ditches, channel banks, diversions, ski slopes, woodland access roads, logging yards, skid trails	creeping red fescue	.45 lbs.
	redtop	.05 lbs.
	flat pea	<u>.69 lbs.</u>
		1.19 lbs.
Soil banks	tall fescue	.46 lbs.
	flat pea	<u>.69 lbs.</u>
		1.15 lbs.
Sod waterways and spillways	creeping red fescue	.46 lbs.
	redtop	.05 lbs.
	tall fescue	<u>.46 lbs.</u>
		.97 lbs.

8. The applicant may propose alternative seeding in conformance with the recommendations of the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices.

## **Appendix C      Temporary and Permanent Mulching**

### **Temporary Mulching**

Hay or straw mulch shall be applied to areas that have been temporarily or permanently seeded or which cannot be seeded during the growing season. Straw mulch only is to be used for areas where the mulch must be maintained for more than 3 months. The mulch shall cover 75-90% of the ground surface area and shall be applied at a rate of 2 bales per 1,000 sqft. A rate of 4 bales per 1,000 sq ft. is to be used for winter protection within the watersheds of phosphorous-sensitive lakes and ponds.

Mulch that is applied to slopes over 15%, waterways, and disturbed areas within 100 feet of a water body or wetland or that is to be used for fall and winter erosion control, shall be anchored by stapling light-weight paper, netting, jute, wood-fiber or plastic netting to the soil surface. For all other areas, apply wood cellulose fiber with a hydro seeder at a rate of 17 pounds per 1,000 sqft. or use a chemical mulch.

### **2. Permanent Mulching**

Wood chip, crushed stone or gravel mulching shall be applied to areas subject to erosion or which are unsuited for plant establishment and growth but are not within concentrated flow areas. Wood chips are limited to slopes no steeper than 3:1 and shall be applied green or air-dried at a rate of 500-900 lbs. per 1,000 sqft. Washed gravel or crushed stone with an aggregate size of 0.25"-2.5" shall be applied at a rate of 9 cubic yards per 1,000 sqft.

### **3. Alternative Mulching**

The applicant may propose alternative mulching in conformance with the recommendations of the Maine Erosion and Sediment Control Handbook for Construction: Best Management Practices, latest revision, prepared by the Cumberland County Soil and Water Conservation District and the Maine Department of Environmental Protection.