

Appendix 8

GUIDELINES FOR VEGETATIVE STABILIZATION

Areas of disturbed soil, including but not limited to areas that are filled, graded or otherwise disturbed during construction projects, should be stabilized according to the following guidelines. These guidelines do not apply to forest management activities and are not strict regulations, and therefore alternative methods of stabilizing soil may be used. However, whenever soil stabilization or stabilization of disturbed areas is required by regulation or by the terms of individual permits, individuals must assure that either these guidelines, or measures equally effective in stabilizing disturbed areas of soil are employed.

The goals to be achieved by proper stabilization are the avoidance of accelerated soil erosion and the avoidance of sedimentation or pollution of water bodies. All stabilization measures must be maintained so that grass or other vegetation remains intact and healthy, otherwise these measures will be ineffective.

In General:

1. Sterile soils such as sands and gravels should be covered with 2 to 4 inches of soil medium that will support vegetative growth.
2. Disturbed soil areas should be graded such that runoff water is either minimized or eliminated from running over the site.
3. Disturbed areas which can be seeded between May 1 and September 15 should be prepared and seeded during that period.
4. Disturbed areas which cannot be seeded between May 1 and September 15 should be mulched with hay, straw or some other suitable material to keep them as stable as possible over the winter, and particularly during spring runoff the following year. For over-wintering, mulch must be tacked down, as it is easily blown around on frozen ground, leaving areas of soil exposed. Mulch hay should be applied at a depth of 4 inches, or between 150 to 200 lbs. per 1000 square feet, over the disturbed site. Mulched over-wintered areas should be prepared and seeded the following spring as soon as conditions allow.

It is not recommended that disturbed areas be seeded after September 15th (“dormant seeding”) for a number of reasons. Among the reasons, seeding rates are doubled, which is more expensive; timing is critical to ensure that

germination does not occur before the following spring; there is an increased risk of sedimentation because sites are generally wetter in the fall; the thicker mulch must be removed in the spring in order to allow the germinating seed to survive; and the application of fertilizer during this time increases the risk of leaching or runoff loss of nutrients into water bodies.

5. Seeding preparation, in addition to providing a soil medium that will support vegetative growth if the site is sterile, includes the application of lime and fertilizer, which should be lightly raked prior to seeding. After the area is seeded, it should be lightly watered and then mulched with 70 to 90 lbs. (2 standard bales) per 1,000 square feet of weed free hay or straw to protect the seed. Keep the site stable and moist, and allow the seed to germinate and grow.

6. For accurate liming as well as fertilization, it is recommended that you have the soil analyzed to determine the specific nutrient requirements of your site.

Lime should be applied at a rate of approximately 140 pounds to 1000 square feet of area. This rate may vary depending on the natural conditions of the soil on the site. 10-5-20 fertilizer should be applied at a rate of 18.5 lbs. per 1000 square feet of area. Following the establishment of vegetation, non-phosphorous fertilizer should be used in accordance with the Department of Environmental Protection's recommendations.

7. **In shore land areas in particular, fertilizers should be of the "quick release" low phosphorus type, such as 12-4-8 mixtures applied at a rate of 8 pounds per 1000 square feet of area. If you are near water bodies, it is important not to apply more than approximately this amount of fertilizer, as excess may be washed into streams or lakes and contribute to lowering water quality and such things as algae blooms in lakes.**

Following the establishment of vegetation, non-phosphorous fertilizer should be used in accordance with the Department of Environmental Protection's recommendations.

Fertilizers should never be applied right before thunder storms or before spring runoff, because the great amounts of water running over the land will wash the fertilizer, particularly phosphorus, into water bodies. However, a light watering after the fertilizer is applied will help bind the phosphorus to the soil.

8. There are many combinations of grasses that can be used. One combination particularly good for providing soil stability, generally referred to as the Soil Conservation Mixture, consists of: (Proportions, by weight)

Creeping Red Fescue	35%
Kentucky Bluegrass	25%
Annual Rye Grass	15%
Perennial Rye Grass	10%
Red Top	10%
White Dutch Clover	5%
*Oats - See Below	

This seed would be applied at a rate of 1 pound per 1000 square feet. These particular grasses do best if mowed no closer than 2-1/2 to 3 inches from the ground. Of course, other seed mixtures are available.

It is important, in choosing a mixture, to choose one suitable for the site being stabilized. There are many different types of seeding mixtures designed for particular site conditions such as shade, sun, and drainage. Any mix should contain some seed which germinates rapidly to provide the quickest stabilization possible while awaiting the germination of the remaining types.

(*) For quick germination, oats are very good. They germinate in 7 to 10 days. They should be planted at a rate of approximately 1 to 1-1/2 bushels per acre, in addition to the basic grass mixture. Oats should be mowed when they reach knee height to allow the germinating grasses to receive sunlight.

Alternatives:

As indicated above, other stabilization programs may be used, provided they are equivalently effective in stabilizing disturbed areas and preventing accelerated soil erosion and sedimentation of water bodies. Further assistance may be obtained, including in some cases site-specific recommendations, as follows:

- Local Soil and Water Conservation Districts
- The USDA Natural Resource Conservation Service
- Maine Department of Environmental Protection, Lakes Program
- Landscaping Professionals
- Reputable Lawn and Garden Supply Dealers

The following documents may provide valuable assistance to those developing a soil stabilization plan:

Maine Erosion and Sediment Control Handbook: Best Management Practices (Bureau of Land and Quality, Maine Department of Environmental Protection, March 2003)

Strategy for Managing Nonpoint Source Pollution From Agricultural Sources and Best Management Guidelines (NPS Agricultural Task Force, 1991)

Erosion and Sediment Control Handbook for Maine Timber Harvesting Operations, Best Management Practices (Maine Forest Service, 1991)