

Town of Jackson
Design Guidelines for Compliance
Section 4.1.6 Site Disturbance
Zoning Ordinance

1. General Considerations:
 - a. Existing natural and topographic features, including vegetative cover and runoff flow paths and types, should be preserved to the greatest extent possible. In the event that extensive amounts of vegetation are removed, plans should call for replanting with indigenous vegetation to maximize soil stabilization and prevent Erosion.
 - b. The Site Disturbance should be kept to the smallest area needed to complete the work.
 - c. Consider keeping the maximum height of all new cutting or filling at no more than 15 feet, measured vertically, above or below Natural Ground Surface at any point. Where a cut slope (steeper than 5:1) is within 40 feet horizontally of a fill slope (steeper than 5:1), consider keeping the maximum height of the combined slope at no more than 20 feet, measured vertically.
2. Minor Site Disturbances: Following are suggested methods for dealing with projects that involve minor Site Disturbance (areas less than 10,000 square feet where slopes are no more than moderate).
 - a. *Install Silt Fencing:* Silt fencing should be installed immediately below the Site Disturbance. Silt fence should be installed approximately parallel to the contours with the ends hooked uphill.
 - b. *Divert Runoff Around Work Area(s):* Flow from above the work area should be diverted around the Site Disturbance and either re-distributed using level spreaders or returned to its original channel depending on the original flow type (e.g., sheet flow or concentrated flow). Level spreaders should be constructed by cutting into the existing ground, not by filling.
 - c. *Stabilize Idle Work Areas by Mulching or Establishing Vegetation:* Where areas of exposed soil are not to be worked for a period of two weeks or longer, or when a significant rainfall event is forecast, the plans should call for stabilization with mulch unless temporary vegetation has been established. Mulch should be straw applied at a rate of two bales per 1,000 square feet and anchored with netting, tackifier, or other reliable measures. Temporary vegetation is considered established when it covers 75-percent of the soil surface (evenly distributed).
 - d. *Use Sediment Basin where Dewatering is Required:* If dewatering pumps or drains may be called for, sediment-laden water should be discharged to a temporary sediment basin. The basin should be at least 1.5 feet deep, have a surface area of at least 25 square feet per 100 gallons per minute of inflow, have a length to width ratio of 2:1 or greater, have its outlet at or above its normal depth, and should discharge in a manner that does not cause Erosion.

- e. *Re-Established Pre-Development Flow Conditions:* Where the construction must create a permanent diversion around work area, plans should call for one or more permanent level spreaders to be used to re-distribute the channelized flow below the permanent construction. Permanent level spreaders should be constructed by cutting into the existing ground.
 - f. *Stabilize Channels with Erosion Control Matting or Stone:* The bottom of all new temporary and permanent channels should be stabilized with an erosion control mat, a turf reinforcement mat, or NHDOT Class C Stone fill set on a medium strength non-woven geotextile. Check dams, spaced no greater than five vertical feet, should be installed in all channels that are not stone lined.
 - g. *Re-Established Vegetation:* Plans should call for all Site Disturbance that is not covered with hard surfacing (e.g., structures, pavement, stone, etc.) to be spread with loam at least four inches deep, and seeded and mulched, sodded, planted, or a combination thereof.
 - h. *Stabilize Steep Slopes with Erosion Control Matting:* Plans should call for all permanent slopes steeper than 3:1 to be permanently stabilized with an erosion control mat or a turf reinforcement mat installed complying with the manufacturer's written instructions. Earthen cut and fill Slopes should not exceed 2:1.
 - i. *Stabilize Prior to Winter:* Plans should call for all Site Disturbance to be stabilized as described in the above paragraphs prior to November 15th.
 - j. *Remove Sediment and Temporary Measures:* Plans should call for the removal of trapped sediment and temporary erosion control measures upon permanent stabilization. Permanent stabilization means that vegetation covers at least 75-percent of the soil surface (evenly distributed).
3. **Major Site Disturbances:** The following additional suggestions are offered for projects that involve major Site Disturbance (areas of 10,000 square feet or more or/and slopes are more than moderate)
- a. *Submit a Hydrologic Analysis:* It may be helpful to prepare a hydrologic analysis to assure that the proposed work will not increase the peak rate of runoff above that of the existing conditions. The analysis should include a brief narrative summarizing the methodology and results. Calculations may be prepared for both the 2-year and 25-year return period using the Natural Resource Conservation Service's (formerly SCS) TR-20 methodology.
 - b. *Submit an Erosion and Sediment Control Plan:* A project-specific Erosion and Sediment Control plan of the proposed Site Disturbance area and 50 feet beyond it may be helpful in determining if the project has been designed reasonably and will be performed reasonably as required by Section 4.1.6 of the Zoning Ordinance. If such a plan is thought to be of value it should include the following:
 - i. Existing and proposed topography (including proposed permanent site features such as structures, driveways, septic systems, retaining walls, etc.) with a two-foot contour interval.
 - ii. Specific methods that will be used to control Erosion and Sedimentation, soil loss, and stormwater runoff, both during and after construction.

- iii. Construction access routes and methods to minimize sediment tracking from construction vehicles.

It is best to have such a plan prepared and stamped by a professional engineer licensed in New Hampshire or a Certified Professional in Erosion and Sediment Control certified by CPESC, Inc. The board of selectmen (or their representatives) will generally review the design using the “Stormwater Management and Erosion and Sediment Control Handbook for Developing Areas in New Hampshire”, prepared by the NHDES, RCCD, and USDA SCS, dated August 1992, or a later version (if any) in determining if the reasonably designed and performed criteria of the Zoning Ordinance have been met. Other standards or guidelines may be considered where they are appropriate to meeting the criteria.

- c. *Narrative*: It is often helpful to submit a concise narrative describing the effect of the proposed development on abutting properties, roads, water bodies, wetlands and other significant existing features in the vicinity of the project. Further, it may be helpful to have the narrative prepared by a professional engineer licensed in New Hampshire or a Certified Professional in Erosion and Sediment Control certified by CPESC, Inc.