

Model Grading Specifications for Roads

(This sample set of specifications should be reviewed by municipal officials before actual use. These specifications focus more on the technical aspects of specifying grading of gravel roads rather than the legal aspects. Sole responsibility for the performance and ultimate quality of the grading work rests with the municipality. In addition, there are probable sections of this document which need to be adjusted to fit local preferences.)

- All travel lanes on gravel roads will be graded with a cross-slope of $\frac{1}{2}$ "-per-foot (4%) of lane width from centerline to shoulder (i.e. a 10 ft. lane will have a crown of 5"). Shoulders will be lower and graded at a slightly steeper cross-slope to provide positive drainage toward the ditch.
- All potholes shall be undercut and not simply filled.
- No gravel or sod berm or windrow will be left in-between the road and the ditch slope.
- Prior to any grading, the Contractor or Town will call the Dig-Safe number 8-1-1 or register online at www.digsafe.com to protect against possible damage. The 72-hour waiting period will be adhered to in ALL CASES, except emergencies. All other non-member utilities will be contacted too at the same time.
- If possible, all slopes will be no steeper than 2:1 (horizontal to vertical) and all backslopes will be no steeper than 1:1.
- The depth of ditch should be at least 12" below the *bottom* of the roadway base gravel. If the depth of base gravel is unknown, then the ditch should be a minimum of 18" below the shoulder elevation. Care should be given to avoid excessively deep ditches which could create safety and liability concerns to motorists and/or pedestrians, especially with steep side slopes.
- All ditches will be shaped with no hard transitions in slopes. The shape should be rounded (parabolic) to minimize erosion and water velocities. V-ditches should be avoided.
- The grade of ditch flowlines should have a minimum of 1% and never be less than 0.5%.
- All work will be protected by proper work zone devices and procedures. The standards presented in the latest edition of Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) will serve as minimum standards.
- All culverts or obstructions will be flagged or marked prior to grading to ensure no damage to the culverts or equipment.
- All "ditch spoils" will be properly disposed of by the operator. If possible, an easement will be obtained to dump excavated material onto private property.
- Any ditch drainage onto private property will only occur after a drainage easement has been signed by the land/home owner.
- All work will be performed under the direction of the Road Commissioner (Town Manager or Board of Selectmen).
- Any inconvenience to residents or adjacent driveways shall be avoided by prior notification.
- All culverts, geotextiles and erosion control materials will be approved of and/or bought by the Town prior to placement.
- If regaveling a road, the "old" road surface will be crowned prior to any new gravel placement.
- All subbase gravel will meet standard MDOT Subbase Gravel specs for Type D. Maximum lifts of 9" will be placed and thoroughly compacted to 95% maximum density and shaped with the proper crown. Samples of all gravel may be obtained by the Town

at any time to ensure quality and for periodic testing.

- All surface gravel should be a “tighter” consistency than the subbase gravel by containing more “fines” and meet the following gradation:

Sieve Size	% Passing by Weight
2 inches	95-100%
½ inch	30-65%
#200	7-12%

- The gravel shall be properly shaped and compacted during placement. If the surface gravel is to be paved, then the gradation must be “cleaner” than the above spec and meet MDOT Standard Spec. 703.06 (a) - Type A.
- All unstable ditches and slopes will be properly protected against erosion according to current best management practices. Timely protection and proper materials will be primary considerations to proper erosion control.