

TOWN OF CHESTER

ROAD AND BRIDGE SPECIFICATIONS

The Town of Chester hereby adopts the following Town Road and Bridge Specifications which will apply to all future road, driveway, and bridge construction or reconstruction done within the Town (unless State or Federal funding regulations govern over this document). These Specifications are being adopted in order to:

- a). Provide for the safety and welfare of the traveling public
- b). Reduce the avoidable dangers we expose our emergency forces to
- c). Construct roads, bridges and driveways to a minimum acceptable Town Standard

The standards listed herein are considered minimum and are presented for purposes of guiding construction and maintenance. Applicants must notify the appropriate Vermont State Agencies having jurisdiction to determine whether there are any specific permits that are required for the work. With respect to existing roads that are being considered for adoption, the Select Board reserves the right to consider modifying the standards for a particular project, where, because of unique physical circumstances or conditions, including topographical or other physical conditions, the project can not be completed in strict conformance with the provisions of these Road and Bridge standards, and that the modification is therefore necessary for the project to be completed in a reasonable manner. The modification must be the least variance possible from these standards to afford the relief necessary to permit the project to be completed, and such modifications must be presented by the permit holder's design Engineer. Fiscal reasons are not a basis for modification of the standards.

Roads in the Town of Chester can be classified as follows:

Class I - Town Highway: Town highways designated by the State which form the extension of a state highway and carry a state highway route number.

Class II - Town Highway: Town highways designated by the Selectboard and used for the purpose of securing trunk lines of improved highways from town to town and to places which by their nature have more than normal amounts of traffic.

Class III - Town Road: Town highways designated by the Selectboard with the approval of the agency, which are not Class 1 or 2 highways.

Class IV – Unmaintained Town Road: All other town highways which are not class 1, 2 or 3 town highways or unidentified corridors.

Private Road: A non-public road serving 2 or more lots.

Trails: Trails are not to be considered town highways and the town is not responsible for any maintenance including culverts and bridges.

Driveways: An access serving only one lot.

The Select Board has the authority in its sole discretion to accept or refuse to accept any road as a Town road. The Town of Chester will not consider the taking-over of any private road unless there are a minimum of 4 completed houses that are served by said road, and the road meets all current standards outlined herein.

Access Permit:

An Access Permit is required for all road and bridge construction or reconstruction done within the Town, where the road joins a Town road. An Access Permit is also required for any driveway construction or reconstruction done within the Town road Right-of-Way, where the driveway joins a Town road.

Approval for any access which joins a Town road must be obtained from the Director of Public Works, or in their absence, the Town Manager. This approval will be obtained prior to any construction.

Ditches:

Soil exposed during ditch and slope maintenance will be protected from erosion by stabilizing it by seeding and/or mulching or by placing fiber mats or stone. This shall be done at the time of certification. Completed roadside ditches, public or private, shall be vegetated or lined with rock as follows:

- a). Seed and mulch ditches and slopes with grades less than 3%.
- b). Place biodegradable matting and seed on ditches and slopes with grades between 3% and 8%..
- c). Install angular stone, which is 5 inch minus, on slopes over 8%, using filter fabric beneath the stone.
- d.) Whenever feasible, create parabolic (wide “u” shaped) ditches during cleaning rather than narrow “V” shaped ditches. Ditches with gradual side slopes and a wide bottom are preferred.
- e.) Parabolic ditch shaping is required if it is part of a Town Highway Class 2 Roadway Project unless the roadway geometry or unique physical conditions prevents parabolic ditch shaping.
- f). Ditch cross sections should be constructed with a maximum slope of 2:1 (2 horizontal:1 vertical)

Water shall be diverted out of ditches as follows:

- a). every 400 feet on roads with slopes of 1-2%
- b). every 300 feet on roads with slopes of 3-5%
- c). every 200 feet on roads with slopes of 5-10%; and
- d). every 150 feet on roads with slopes over 10%.

Culverts and Bridges:

On any project, except as provided herein for driveways, the minimum roadway culvert diameter will be eighteen (18) inches. In the event that there are physical conditions or limitations that may affect culvert installation, a field review prior to installation, with the Director of Public Works, will be required. All culverts will be installed according to standard construction practice and will also be installed per manufacturer's specifications to insure proper installation and performance. Culverts must be new, and may be either sixteen (16) gauge galvanized steel or dual wall High Density Polyethylene (HDPE) silt tight to meet ASTM standards. All adjacent ditches will be regraded as required to maintain and assure proper flow characteristics. Side by side culvert installations will not be permitted. Culvert placement will be reviewed with the Director of Public Works prior to installation.

When installing, replacing or maintaining culverts, the inlets and outlets must be protected from erosion and undermining by using appropriate techniques such as stone headwalls and wing walls. A splash pad or plunge pool must be installed at the outlet of drainage culverts where there is erosion or where erosion may occur.

Roads with no discernible slope will have at least one eighteen (18) inch cross culvert every 500 feet. Depending on slope, this minimum shall be increased as follows:

- a). every 400 feet on roads with slopes of 1-2%
- b). every 300 feet on roads with slopes of 3-5%
- c). every 200 feet on roads with slopes of 5-10%
- d). every 150 feet on roads with slopes over 10%.

Any structure, exclusive of culverts and except as provided herein for driveways, with a span greater than thirty-six (36) inches on all new roads will be designed by a registered Professional Engineer licensed to practice in the State of Vermont, and will be in accordance with the most current Vermont Agency of Transportation design manuals, and must comply with all State permits and regulations. The capacity determination shall also take into account specific site conditions such as the importance of the road functioning during critical events, historic ice formation, high water conditions, high debris and/or sediment loads, and downstream development at risk, which may necessitate larger or heavier structures. Placement of structures in perennial streams must be reviewed by the State of Vermont Agency of Natural Resources, and any other Authorities having jurisdiction.

Minimum width of traveled way over bridges shall be 14 feet in width. Minimum culvert length will be as specified herein, or as required to accommodate the total width of traveled way and shoulders, including adjacent slopes. If necessary, this will be reviewed in the field with the Director of Public Works prior to any culvert installation.

The installation of any structure or bridge on any new road, as identified in this section, must be inspected and certified by a registered Professional Engineer licensed to practice in the State of Vermont.

Road Construction, Base and Grading:

The following minimum standards will apply to road construction:

- a). The right of way for a road shall be a minimum of fifty (50) feet, and the traveled portion shall be constructed in the middle of the right of way.
- b). Minimum design speed will be 25 mph
- c). New roads and driveways will intersect perpendicular (at a 90 degree angle) with existing roads whenever possible.
- d). Adjacent to the existing asphalt paved roads, "stone wheel scrubbers" may be required, using 5" crushed stone, to help alleviate soil deposits from construction vehicles onto the existing asphalt paved roads. These wheel scrubbers will be constructed to the width of the new road, and for a distance of 75 feet from the edge of the adjacent existing asphalt road shoulder.
- e). Vertical clearance to utilities will be as set forth by the appropriate Utility companies. Minimum vertical clearance to trees and branches will be 14 feet for the width of the traveled way, including shoulders.
- f). Sight distances for all roads and driveways will be as shown on the latest edition of the Vermont Agency of Transportation Standard Drawings B-71. A copy of this Standard Drawing is attached.

All roads will have a maximum grade of 12% for a distance of up to 300 feet, then the grade must return to 10% for 300 feet before returning back to the 12% grade. Roads serving 3 houses will have a traveled width of 16 feet with a minimum shoulder width of 2 feet on each side. Roads serving 4 or more houses will have a traveled width of 20 feet with a minimum shoulder width of 2 feet on each side.

New roads being joined to an existing asphalt paved Town road must be paved with 2 lifts totaling 3" deep and with bituminous concrete for at least the first one-hundred (100) feet from the edge of the paved travel way of the paved Town road. Gravel base will be as specified herein.

Unless specifically stated herein, all new road access to an existing Town road will be built in accordance with the standards outlined on the latest edition of the Vermont Agency of Transportation Standard Drawings A-76. A copy of this Standard Drawing is attached.

On all curves where the drop adjacent to the shoulder is five (5) feet or more with a slope greater than 1:3 (three horizontal to one vertical), guard rails must be installed in accordance with applicable State standards outlined on Standard A-76.

All gravel roads shall have at least twelve (12) inches of bank run gravel with no stone larger than six (6) inches, and six (6) inches of crushed gravel with no stone larger than one-and-one quarter (1 1/4) inches; all materials must be properly compacted. Roads must be graded so that water does not remain on the road surface. This generally means having a crown of 2% (1/4 per ft) to promote sheeting of water. In addition, roads will be constructed in a manner that allows adequate space for shoulders and ditching without

creating unstable uphill or downhill slopes. Ditch lines must be lower than the bottom of the bank run gravel. All materials used must meet State of Vermont roadway construction specifications.

Proper grading techniques for gravel roadways will be used to avoid creating a ridge or berm between the crown and the ditch. Any berm along the roadway shoulder that prevents the proper sheeting of water will be removed.

Driveways:

The minimum diameter for culverts under any driveway access, (permanent or temporary), onto a town highway will be fifteen (15) inches, and will be a minimum of thirty (30) feet in length. In the event that there are physical conditions or limitations that may affect culvert installation, a field review prior to installation, with the Director of Public Works, will be required. All culverts will be installed according to standard construction practice and will also be installed per manufacturer's specifications to insure proper installation and performance. Culverts must be new, and may be either sixteen (16) gauge galvanized steel or dual wall High Density Polyethylene (HDPE) silt tight to meet ASTM standards. In addition, all culverts must have headers or culvert manufacturers compatible end sections. All adjacent ditches will be regraded as required to maintain and assure proper flow characteristics. Side by side culvert installations will not be permitted. Culvert placement will be reviewed with the Director of Public Works prior to installation.

Unless specifically stated herein, all new driveway access to an existing Town road will be built in accordance with the standards outlined on the latest edition of the Vermont Agency of Transportation Standard Drawings B-71. A copy of this Standard Drawing is attached.

The cost of an access culvert is the responsibility of the property owner. The property owner is responsible for maintenance and future replacement of the access culvert. The Town of Chester assumes no responsibility for access culverts damaged in the normal maintenance of the Town Highway/Road.

Driveways:

New driveways accessing a Town road must be 12 feet in width for the first fifty (50) feet and must be constructed and maintained to these Road and Bridge Specifications, including ditches and culverts. Bridges on new driveways that are within the Town Right-of-Way must be designed and constructed in accordance with the requirements outlined in these Specifications.

These standards shall also apply to temporary roads that drain onto Town highways and roads.

Special Conditions:

The Director of Public Works may approve an alternate to road base construction material and depths, if one is presented by a registered Professional Engineer licensed to practice in the State of Vermont on behalf of the permit holder.

The permit holder will take all precautions to safeguard the traveling public during the performance of the work.

Gravel, base and surface courses of existing adjacent roads will be replaced by the permit holder if damaged or disturbed during the adjacent construction of the new road or driveway.

No structure or storage facilities or worker vehicle parking are permitted within the Town road Right-of-Way during construction.

All construction and material costs, including required designs and certifications, will be the sole responsibility of the permit holder.

All applicable Town Zoning and Flood Hazard Regulations, and all State laws and regulations, including the State Environmental Control Commission regulations will be part of these specifications.

The permit holder will be liable and responsible for any damage, repair or maintenance of the road, bridge, drain, ditch, slope, post or culvert, including headers, within the Town road Right-of-Way.

The specifications outlined herein are not intended to supersede any zoning or planning requirements. In the event of a conflict, the more stringent will apply.

Any item of work not specifically covered by these specifications contained herein will be designed and constructed in accordance with the latest version Vermont Agency of Transportation "Vermont State Standards for the Design of Transportation Construction, Reconstruction and Rehabilitation on Freeways, Roads and Streets".

Adoption:

The Town of Chester Road and Bridge Specifications are hereby passed and adopted by the Select Board of the Town of Chester on this 20th day of May, 2009.

/s/ Richard Jewett
/s/ Derek Suursoo
/s/ John DeBenedetti
/s/ Michael Westine
/s/ Julie Ladieu-Walton

Amended this ____ day of March, 2011

John DeBenedetti

Derek Suursoo

William Lindsay

Thomas Bock

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