

TOWN OF CAMBRIDGE

HIGHWAY STANDARDS ORDINANCE

The Selectboard of the Town of Cambridge, Lamoille County, Vermont, in accordance with the authority invested in them by the State of Vermont, hereby adopts the following Town of Cambridge Highway Standards Ordinance.

Adopted: [Month, day, year]

Signed:

XXXXXXXXXXXX _____

XXXXXXXXXXXX _____

XXXXXXXXXXXX _____

Effective: [Month, day, year]*

* Unless a petition to vote on the question of disapproving the ordinance, signed by not less than five (5) percent of the qualified voters of the Town of Cambridge, is presented to the Selectboard or Town Clerk within forty-four (44) days following the date of adoption above.

The Clerk of the Town of Cambridge, Lamoille County, Vermont, in accordance with the provisions of 24 V.S.A. §1975, hereby certifies that the adoption of this ordinance has been conducted in accordance with the procedures established in 24 V.S.A. §§1972 – 1973 including:

1. The adoption of the ordinance appeared as an agenda item at the regular Selectboard meeting held on _____.
2. The ordinance was read and approved at the above regular Selectboard meeting and a copy has been entered into the minutes.
3. The ordinance was posted in at least five conspicuous locations in town within fourteen (14) days.
4. A concise summary of the ordinance was published in the _____ newspaper on _____, accompanied by information as to where the full text may be examined, the right of

voters to petition for a vote, and the name, address and telephone number of a person who is available to answer questions. A copy of the newspaper publication was entered into the Selectboard minutes on _____.

5. Notice to petition: None filed: _____ Date filed: _____

Signed:

XXXXXXXXXXXXXXXXX _____

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ARTICLE I. GENERAL PROVISIONS

1.01 Authority

This ordinance is adopted under the authority granted by 24 V.S.A. §1971 and 19 V.S.A. §304.

1.02 Purpose

This ordinance has been adopted so as to:*

- A. Establish standards for construction, improvement, and use of public highways so as to ensure the safety of the traveling public, to minimize the long-term costs to taxpayers, and to mitigate negative impacts on water quality through design.
- B. Establish a process by which highways are to be laid out, altered, classified, reclassified, discontinued, or accepted by the Town of Cambridge.
- C. Establish a process by which the public right of way is managed and maintained.
- D. Establish standards and a process by which access to the town highways may be granted.
- E. Establishes standards and a process by which the town may permit excavation within or under a highway right of way.

This ordinance is intended to establish procedures and standards for regular functions related to the town highways in the Town of Cambridge. Not all circumstances and requests relating to town highways are covered under this ordinance. The Selectboard will address special circumstances after review of professional standards, legal council, or other appropriate source as necessary to determine the appropriate course of action to follow.**

1.03 Scope of Ordinance

This ordinance shall apply to all existing and proposed town highways within the Town of Cambridge including any existing and proposed town highways within the Villages of Jeffersonville and Cambridge.

Town highways are only such as are (1) laid out in manner as prescribed in statute; (2) conveyed to and accepted by the Town of Cambridge for public use; (3) dedicated to

public use and accepted by the Town of Cambridge; or (4) laid out by the Town of Cambridge for public use. [19 V.S.A. §1(12)]

Included in the definition of highway are “rights of way, bridges, drainage structures, signs, guard rails, areas to accommodate utilities authorized by law to locate within highway limits, areas used to mitigate the environmental impacts of highway construction, vegetation, scenic enhancements and other structures.” [19 V.S.A. §1(12)]***

This ordinance does not address private roads and driveways, recreation paths, bicycle paths and trails which are outside of the typical highway right of way. This ordinance also does not address routine maintenance policy such as snow and ice removal, Class 4 highways, summer grading, repaving schedules, RSMS, or capital budgets.

1.04 Designation of Effect

This ordinance shall be designated as a civil ordinance in accordance with 24 V.S.A. §1971(b).***

1.05 Severability

If any portion of this ordinance is held to be invalid by a court of competent jurisdiction, such finding shall not invalidate any other part of this ordinance.

1.06 Amendments

The Selectboard may vote to amend this ordinance from time to time, in accordance with the procedures established in 24 V.S.A. §1972 and §1973 or as most recently amended in state law.

* The purpose of this ordinance is to address basic construction of town highways. Other related ordinance may be equally important to the safety and efficient functioning of the highway but are not addressed here. Such other ordinances may include regulating weight limits, establishing speed limits, or naming roads.

** Special circumstances, such as the process or provisions of eminent domain and taking of property for creation of new public highways are not discussed in this ordinance. These are considered rare and special circumstances and will proceed on a case by case basis following a thorough legal review. Certain standards, such as those for the village street system, may have additional engineering to accommodate other objectives including traffic calming, sidewalks and on-street parking.

*** Private roads and driveways cannot be addressed under this Title and can only be addressed through zoning and/or subdivision regulations or a separate private road ordinance.

**** All ordinances must be designated as either civil or criminal in order to be valid.

ARTICLE II. DEFINITIONS

Acceptance. Means receipt of the right of way needed for a new highway, in some cases this may include a completed roadway. [19 V.S.A. §701(1)]

Altered. Means a major physical change in the highway such as a change in width from single lane to two lanes. [19 V.S.A. §701(2)]

Bicycle lane. A portion of a roadway that has been designated by signs and pavement markings for preferential or exclusive use by bicyclists.

Bridges. Defined as all structure with spans greater than 6 feet in length.

Classification. Means the categorization of all town highways pursuant to section 302 of Title 19. [19 V.S.A. §701(3)]

Class 1 town highways. Are those town highways which form the extension of a state highway route and which carry a state highway route number. [19 V.S.A. §302(a)(1)]

Class 2 town highways. Are those town highways selected as the most important highways in each town. As far as practicable, they shall be selected with the purposes of securing trunk lines of improving highways from town to town and to places which by their nature have more than a normal amount of traffic. [19 V.S.A. §302(a)(2)]

Class 3 town highways. Class 3 town highways are all traveled town highways other than class 1 or 2 highways. The minimum standards for class 3 highways are a highway negotiable under normal conditions all seasons of the year by a standard manufactured pleasure car. [19 V.S.A. §302(a)(3)]

Class 4 town highways. Are all other highways not falling under definitions of class 1, 2, or 3 highways. [19 V.S.A. §302(a)(4)]

Dedication. Means the process of selecting a right-of-way or an alignment for a highway. [19 V.S.A. §701(5)]

Discontinued. Means a previously designated town highway which through the process of discontinuance all public rights are reconveyed to the adjoining landowners. [19 V.S.A. §701(4)]

Lay out. Means the legal procedures establishing the alignment or right-of-way of a highway. [19 V.S.A. §701(8)]

Paved shoulder. The paved portion of the highway contiguous with the outside travel lane of the roadway that can be used by bicyclists as well as for the accommodation of

pedestrians, stopped vehicles, emergency use and the lateral support of sub-base, base and surface courses.

Reclassify. Means to change the classification of a highway using the legal process described in Chapter 7 of Title 19. [19 V.S.A. §701(9)]

Shared lanes. Travel lanes with no additional width provided for bicyclists.

Survey. The word survey means: (1) A survey of the existing highway where no previous survey has been properly recorded or the record of a previous survey has not been preserved, or the terminations and boundaries of a previous survey cannot be determined; or (2) A resurvey to reproduce a previous survey or surveys. [19 V.S.A. §33(a)]

Trail. Means a public right of way which is not a highway and which: (1) previously was a designated highway having the same width as the designated town highway, or a lesser width if so designated, or (2) a new public right of way laid out as a trail by the Selectboard for the purposes of providing access to abutting properties or for recreational use. [19 V.S.A. §301(8)]

Wide curb lane. A wider than normal travel lane that better accommodates bicycle and motor vehicles in the same lane while providing enough space for motorists to overtake and pass bicyclists without changing lanes.

ARTICLE III. ADMINISTRATION, APPEALS, AND ENFORCEMENT

3.01 Selectboard

It shall be the duty and responsibility of the Selectboard to:*

- A. Unless the electorate votes otherwise under 17 V.S.A. §2646, appoint a road commissioner, or remove him or her from office pursuant to 17 V.S.A. §2651. Road Commissioners, elected or appointed, shall only have the powers and authority regarding highways granted to them by the Selectboard.**
- B. Appoint a tree warden from among the qualified voters of the town.
- C. Promulgate and adopt after public hearing(s) road specifications for highways to be built or rebuilt within the town in compliance with applicable statutes. [See Article VI.]
- D. Determine, after public hearing, whether to accept a private street or right of way as a public highway. [See Article VII].
- E. Lay out, alter, classify, and discontinue town highways. [See Article VIII.]
- F. Establish and adopt after public hearing(s) driveway and highway access standards. [See Article IX.]

3.02 Road Commissioner **

The Selectboard appoints one or two road commissioners unless the town has voted to elect road commissioners. The appointment or removal of road commissioners is only through the procedures established in statute [17 V.S.A. §§2646, 2651]. Road commissioners, whether elected or appointed, shall have only the powers and authority granted to them by the Selectboard.

The Selectboard of the Town of Cambridge has granted authority to road commissioners to:

- A. Issue driveway and highway access permits. [See Article IX.]
- B. Issue permits for work in highway right of way. [See Article X.]

3.03 Tree Warden

The tree warden is appointed by the Selectboard from among the qualified voters of the town. The tree warden has control over all “shade and ornamental trees within the limits of public ways and places” [24 V.S.A. §2501]. The warden is empowered to implement a town shade tree preservation program. This includes planting, maintenance, and removal of diseased, dying, or dead trees. The tree warden may not, however, remove from the right of way trees and plants upon which noxious insects naturally breed if the adjoining landowner annually controls insect pests to the satisfaction of the tree warden.

3.04 Appeals of Decisions of the Road Commissioner

Where a property owner or voter in the Town of Cambridge believes the Road Commissioner has failed in his or her responsibilities, the person may appeal to the Selectboard for consideration of the grievance.

3.05 Appeals of Decisions of the Selectboard

Unless otherwise provided herein, a property owner aggrieved by a decision of the Selectboard may appeal to the transportation board pursuant to 19 V.S.A. §5(d)(8).

3.06 Violations and Enforcement

The complaint in any violation of this ordinance shall be signed by the issuing municipal official. The original copy shall be filed with the judicial bureau, a copy shall be retained by the issuing municipal official, and two copies shall be given to the defendant. [24 V.S.A. §1977]

A civil penalty of not more than \$500 may be imposed for a violation of this ordinance. Each day the violation continues shall constitute a separate offence. [24 V.S.A. §1974a]

All violations, except municipal parking violations, and all continuing ordinance violations where the penalty is \$500 or less shall be brought before the judicial bureau pursuant to Title 4 and Title 24, Chapter 59. If the penalty for all continuing ordinance violations is greater than \$500, or injunctive relief, other than an order that a violation cease, shall be brought in Superior Court. [24 V.S.A. §1974a]

3.07 Fees

The Selectboard shall adopt a fee schedule to cover the costs of administering applications and filing requirements associated with this ordinance.

* More duties can be added as appropriate based on the scope of this ordinance.

** Towns generally have either a road commissioner or a road foreman. Road commissioners are statutory positions and may be elected or appointed. Road foreman are staff positions. Where a town uses a road foreman, language may need to be changed to accommodate that scenario.

ARTICLE IV. SURVEY PROCEDURES AND REQUIREMENTS

4.01 Surveying of existing and proposed highways and rights of way.

The Selectboard may authorize the survey of existing highways and the rights of way, easements or fee title associated with those highways.

Purpose. The purpose of the survey shall be to verify the location and width of the existing right of way, easement, or fee title and to determine the extent of the interest of the public in the title.

Notice of intent. A notice of the intent to survey an existing highway shall be sent to all known abutting landowners by certified mail.

Factual basis of the survey. The survey shall be carried out in accordance with the provisions of Chapter 45 of Title 26.

In performance of the survey, the Selectboard shall attempt to determine from all available evidence, the type of highway, its location on the ground, its width, and the record title holder. The survey shall be based on all available evidence including, but not limited to, survey descriptions, original survey bills, plats, plans, maps, photographs, discontinuances, court documents, public service board orders, actions by the Selectboard, existing monumentation, present road location, nearby intersections, topography, vegetation, past and current use patterns and other additional information generally relied on by land surveyors. [19 V.S.A. §33(b)]

If during the performance of the survey process under this section, the location, or limits, or both of the right-of-way, easement, or fee title cannot be determined on the ground from the available evidence, the Selectboard may instead cause a survey to be made of the centerline of the existing traveled way and a width of one and one-half rods on each side of the centerline shall be assumed and controlled for highway purposes. [19 V.S.A. §33(c)]

Required monumentation. Where a survey or resurvey has been ordered by the Selectboard, the limits of said right of way shall be monumented in accordance with the survey plat and in a manner that will allow its limits to be readily apparent to all adjacent property owners. Monumentation shall be permanent and shall include not less than two intervisible monuments located on, within, or adjacent to the highway limits. Intervisible monuments shall be at intervals of not more than 200 meters. All monuments shall be referenced to the Vermont state plane coordinate system in accordance with applicable statutes and standards in effect. [19 V.S.A. §33(d)]

Notice of Completion. Notice of the completion of the survey shall be sent to all known abutting landowners by certified mail, not less than 30 days before the survey

results are filed with the appropriate town clerk, together with notice of statutory rights of appeal and damages. [19 V.S.A. §33(f)]

Recording survey plats. The Selectboard shall have the survey placed on record in the Town Clerk's Office in each town in which the survey is performed. The record shall include, but not be limited to, survey plats prepared and filed in accordance with 27 V.S.A. §§1401-1406, a written description of the survey and an opinion naming the record title holder. The description and plat shall include coordinates referenced to the Vermont state plane coordinate system. All recorded or filed material shall be indexed. [19 V.S.A. §33(e)]

Upon recordation of the survey and upon final disposition of statutory appeals, all abutting and surrounding lands outside the limits of the survey shall be deemed discontinued, unless any rights deemed necessary are expressly reserved and clearly shown on the recorded survey plat. Title to the discontinued property shall belong to the owners of the abutting lands. If it is located between the lands of two different owners, it shall be returned to the lots to which it originally belonged, if they can be determined; if not, it shall be equally divided between the owners of the lands on each side. [19 V.S.A. §33(g)]

Damages. A property owner aggrieved by a survey may seek damages for the loss of property or for the loss of interest in property through provisions established in 19 V.S.A. §34 within 120 days from the date the results of the survey are recorded in the town clerks office. [19 V.S.A. §33(h)]

ARTICLE V. HIGHWAY CLASSIFICATIONS

5.01 Highway Functional Classification

Highways vary in their functional use. The standards by which a highway is constructed are important to its proper functioning. The Federal Highway Administration (FHWA) classifies all highways in the country into various categories. Cambridge's functional classifications can be found on the *Cambridge Road Name Map* in Appendix A of this ordinance.

- A. Communities are first divided into rural, urban, and small urban areas based on Bureau of Census classification. **All of Cambridge's highways are rural.**
- B. Highways are further classified into arterial, collector, and local roads based on functional use.
 - a. Arterials may be either Principal Arterials or Minor Arterials and are defined as those highways that connect major population centers and facilitate statewide or interstate travel.
 - i. The largest of these are the Principal Arterials. In Vermont these include the Interstate system (I-89 for example) and major roadways such as US Route 2. **There are no Principal Arterials in Cambridge.**
 - ii. Minor arterial highways link larger cities with towns and provide interstate and intercounty service. **Routes 15, 104 and 108 north of Jeffersonville are classified as Minor Arterials.**
 - b. Collector roads generally serve travel of primarily intracounty rather than statewide. Collector roads are further classified into major and minor based on importance.
 - i. **The Major Collector roads in Cambridge are Route 108 south of Route 15, Church Street, Route 109, Hogback Road, Pumpkin Harbor Road, Upper Pleasant Valley Road, and Pleasant Valley Road.**
 - ii. **The only Minor Collector roads in Cambridge are Lower Pleasant Valley Road and Mansfield Ave.**
 - c. **All other roads in Cambridge are local roads.**
- C. If the town would like to change the functional classification of any highway in Cambridge, the Selectboard would need to send a letter of intent to Lamoille County Planning Commission who will then coordinate the process with the state and federal government.

5.02 **Town Highway Classification**

Town highways are given one of four highways classifications based on statutory definition. The classification determines the amount and type of state aid that is provided as well as the routine maintenance responsibilities of the town. Cambridge's town highway classifications can be found on the *Cambridge Road Name Map* in Appendix A of this ordinance.

- A. Acceptance of private streets and reclassification of existing highways shall follow procedures and standards established in Articles VII and VIII of this ordinance.

ARTICLE VI. HIGHWAY STANDARDS

Highways vary in their functional use. The standards by which a highway is constructed are important to its proper functioning. As the quantity of traffic in a highway increases the standards must therefore change. Consequently, the standards that follow are considered minimum standards and are subject to modification by the Selectmen after a study of local conditions requiring changes.

The Selectboard reserves the right to modify the standards for a particular project, where, because of unique physical circumstances or conditions, there is no possibility that the project can be completed in strict conformance with these provisions. The Selectboard may, at their discretion, vary or waive these standards to meet special circumstances or where the standard is not essential to the health, safety and welfare of the traveling public.

The following resources were used to develop these standards. Where questions arise, these manuals and specifications should be consulted. Other sources for specification standards include the Vermont Agency of Transportation Highway Standards with specific reference to A-76 and B-71, the *Vermont State Standards for the Design of Transportation Construction, Reconstruction and Rehabilitation on Freeways, Roads and Streets*, the *AASHTO Policy on Geometric Design of Highways and Streets*, the *Vermont Better Backroads Manual*, and the Vermont Local Roads Program *Road Design and Maintenance Handbook* and other sources as referenced. The A-76 and B-71 standards have been reproduced in Appendix B of this ordinance.

6.01 Right-of-way.

- A. *Width.* The width of the right of way for trails and highways shall be a minimum of 50-feet with wider slope and drainage rights if deemed by the Selectboard. Rights of way may also be wider in village areas to accommodate on-street parking and sidewalks.

Where the width of an existing right-of way is not known, a roadway width of one and one half rods [24'9"] on each side of the center of the existing traveled way can be assumed and controlled for highway or trail purposes [19 V.S.A. §§32, 702]

- B. *Ownership.* All new rights of way shall be transferred to the town in fee simple and without encumbrances. Existing rights of way may be either owned in fee or controlled by easement. Where status is not known the Selectboard may order a survey to determine the extent of interest the town has in the right of way. *
- C. *Survey of right of way limits.* Surveys of existing and proposed rights of way are performed in accordance with the procedures laid out in Article IV of this ordinance.
- D. *Required monumentation.* Monuments demarking the right of way limits shall meet the standards established in Article IV of this ordinance.
- E. *Trees and Shrubs.* The Selectboard is empowered to provide for the location, protection, maintenance and removal of shade trees, plants and shrubs, and buildings or other structures on or above public highways, sidewalks or other property of the municipality (24 V.S.A. §2291(3)). The Selectboard may enter into agreements with individuals or organizations that wish to plant grasses, shrubs, vines, trees or flowers within highway limits (19 V.S.A. §903). At no point shall invasive species be planted along roadsides within the municipality. The Selectboard may remove invasive species from within the road right of way.

At a minimum the right of way shall be cleared of all trees, brush and stumps to a minimum of two feet beyond the roadside ditching. The Selectboard must remove all other trees or brush within the limits of the highway which obstruct the view of the highway ahead or that cause material damage to the highway or that are objectionable from a material or scenic standpoint (19 V.S.A. §904). However, this power is subject to the following limitations:

- a. Shade or fruit trees set out by the adjoining landowners shall be preserved if the usefulness or safety of the highway is not impaired. [19 V.S.A. §904]

- b. Young trees standing at a proper distance from the road bed and from each other, and banks and hedges of brushes that serve as protection to the highway or add beauty to the roadside shall be preserved. [19 V.S.A. §904]
- c. Unless otherwise provided a public shade tree may not be cut or removed, in whole or in part, except by a tree warden or deputy tree warden, or with the written permission of the tree warden [24 V.S.A. §2508]

No person, other than the abutting landowner, may cut, trim, remove or otherwise damage any grasses, shrubs, vines, or trees growing in the right of way of a town highway without permission of the Selectboard. [19 V.S.A. §901]

- F. Following any disturbance of the soil along the roadsides, suitable revegetation of the exposed soil shall take place to prevent erosion.

* Accepting the right of way in fee is not required but is generally recommended because it presents the fewest obstacles in the future for the municipality. The only downfall to acceptance in fee is that the property beneath the roadway is removed from the tax base.

6.02 Road Foundation.

A. The dimensions below are intended for low traffic volume conditions (<250 ADT) and where heavy truck traffic is infrequent. Where heavy trucks are common or increased traffic expected an engineering assessment should be performed to determine appropriate thickness of subbase and surface treatment.*

B. *Subgrade.* Ledge and boulders shall be removed to at least 18 inches below subgrade and replaced with sand or bank run gravel.

All loam, muck, stumps and other improper foundation material shall be removed from within the limits of the fully extended road shoulders. In embankment areas, suitable foundation material shall be placed in one-foot layers and compacted to form a stable subgrade.

The subgrade surface shall conform exactly in cross section to the finished road surface. Crowning and banking of curves shall be required. Compaction is required on any portion of the subgrade which has been disturbed by excavation or which has been filled during the construction of the subgrade. All ditches and drains will be constructed so that they effectively drain the subgrade prior to the placement of any base material. An additional 6 inches of sand cushion shall be placed over any clay subgrade.

C. *Wet areas.* If the proposed roadway is in a wet area, the Selectboard may require additional gravel plus sand cushion and underdrain to insure a stable road.

D. *Subbase.* The subbase shall be composed of 12 inches of compacted crushed gravel installed in two 6-inch lifts with maximum stone size of 4 inches. The cross section of the subbase shall conform to those of the finished surface.

E. *Upper base.* All highways shall be constructed with a 6-inch upper base of course compacted crushed gravel as defined by the *Vermont Standard Specifications for Construction.*

* These are all fairly standard requirements.

6.03 Roadway Crown.

- A. *Paved.* The travel lane shall have a cross slope, from centerline to edge of the traveled lane, of $\frac{1}{4}$ inch per foot. The road shoulder, if present, shall have a cross slope of $\frac{3}{4}$ inch per foot. Paved roads generally will be constructed with a parabolic (rounded) shape to the crown.
- B. *Gravel.* The road shall have a cross slope from centerline to edge of shoulder of $\frac{1}{2}$ inch per foot. Gravel roads generally will be constructed with an “A” shape.
- C. Super-elevation slopes for either paved or gravel roadways shall be a maximum of $\frac{3}{4}$ inch per foot for class III highways. Super elevation slopes must be specifically designed for roadways based on geometry and expected speeds. A qualified professional engineer should verify the amount of super-elevation on any proposed highway.

These standards are based on the Vermont Better Backroads Manual and the Vermont Road Design and Maintenance Handbook.

6.04 Paving.

- A. *Town policy on paving roadways.* * The following standards shall be considered by the Selectboard in determining what road finishing and surfacing will be required as a condition of road acceptance or upgrade.
- a. Arterial and collector highways will normally require pavement. Non-arterial and non-collector type of highways will not normally require paving.
 - b. Paving generally is required for highways expected to handle greater than 400 vehicles per day. **
 - c. The rural or urban characteristics of the neighborhood in which the highway is located shall be considered. The Selectboard will be guided by prevailing characteristics of the surrounding area and public comment as well as the proposed development in deciding whether to require paving a roadway. ***
 - d. Safety to the traveling public and inhabitants along the highway shall be considered in deciding whether to require paving a proposed road and the extent and form of pavement to be required. Roads proposed to have grades of 7 percent or more shall be paved.
 - e. Future foreseeable connection or intensification of a proposed road shall be considered in determining whether and when to require pavement and what form or location of pavement or finishing to require.
 - f. Roadways should be paved when, based on costs of construction and maintenance, the paved roadway is more economical than remaining a gravel highway. ****
- B. *Paving process.* Roadways to be paved shall be operated as a gravel road for a period of at least one year prior to paving. The highway to be paved shall be inspected periodically during the year to determine the quality of the base and drainage. Once all weak spots have been identified and repaired, the road can be prepared for paving. Prior to paving, a new layer of gravel base is required that meets paving standards established by the State Department of Transportation. *****
- C. *Paving standards.* Paving shall be hot bituminous concrete mix meeting all of Vermont State Highway specifications. The bituminous concrete is to be laid and rolled by experienced crews in two layers. The first, the binder course, to a depth compacted to 2 inches and the second application compacted to a depth of 1 inch of hot bituminous concrete, surface mix. All work shall be done in a professional manner.

- a. Where heavy trucks are common or increased traffic expected a pavement design should be performed to determine appropriate thickness of subbase and pavement.

* It is not always beneficial to the town to pave roadways that are proposed for acceptance. Paved highways may be more expensive to maintain in the future than gravel roadways. The Selectboard may choose some, all, or none of these possible policies or may decide other standards. See also Vermont Local Roads Program Fact Sheet *When to Pave a Gravel Road* and VLCT's *Vermont Local Roads Model Highway Ordinance*.

** The Selectboard may elect to use a lower or higher threshold for paving. Vermont Local Roads Program mentions figures from as low as 50 vehicles per day to 400-500 vehicles per day as a point where traffic starts to degrade roads to a point where paving should be considered. If gravel roads are maintained in ideal roadway conditions some research suggests gravel roads can support up to 900-1000 vehicles per day (Zoning Practice, Issue 2, February 2004).

*** The Selectboard may elect to insert a district or area to define paving limits such as 'All roads within the village shall be paved.'

**** Formulas have been produced for estimating costs (see Vermont Local Roads Program Fact Sheet *When to Pave a Gravel Road*) or a detailed estimate can be calculated based on specific site considerations.

***** There is a substantial difference in the type of gravel used for a gravel road surface versus that used for base under pavement (see Vermont Local Roads Program Fact Sheet *When to Pave a Gravel Road* and *Soils for Road Work* for details).

6.05 Travel Lane Width.

- A. The minimum traveled lane width on all arterial and collector roads shall be 11 feet not including shoulders.
- B. The minimum travel lane width on non-arterial and non-collector roads shall be determined according to the table below.

| ADT | Lane width |
|-----------|------------|
| <25 | 7 feet |
| 25-50 | 8 feet |
| 50-1500 | 9 feet |
| 1500-2000 | 10 feet |
| 2000+ | 11 feet |

- C. *Bicycle treatments.* Paved shoulders and/or increased shoulder width is the preferred treatment for accommodating bicycles on arterial and collector highways and for non-arterial and non-collector highways with ADT greater than 400 vehicles (see *shoulders and curbs*). *
 - a. All non-arterial and non-collector streets with low volume (<400 ADT)** shall have shared lanes (roads and bicycles co-exist with no special provisions).
 - b. Within village settings, especially where on-street parking exists, bicycle travel may be accommodated through wider travel lanes. The preferred lane width is 13 feet with no on-street parking and 14 feet with on-street parking.
 - c. Bike lanes are not required on any town highways. Where special circumstances exist that necessitate bike lanes, the Selectboard shall consider them on a case-by-case basis. All bike lanes shall be designed in accordance with the *Vermont Pedestrian and Bicycle Facility Planning and Design Manual* (2002).

* ADT recommendations for bicycle treatments need to be coordinated between *travel lane width* and *shoulders and curbs*.

** 400 ADT was recommended here because it corresponds with paving recommendation. There also exists numbers from 500 ADT to 1000 ADT recommending additional treatments for bicycle safety.

6.06 Shoulders and curbs.

- A. Shoulder widths vary depending on the functional class of the highway (arterial, collector, or local street), bicycle treatments, on street parking, and ADT. *
- B. *Base and grade standards.* Shoulders shall be constructed to the same specifications as the roadway with regard to subgrade, subbase and base and crowned in accordance with roadway crown specifications.
- C. *Shoulder widths.* Shoulders shall be a minimum of two feet in width on a side and shall be a minimum of four feet at guardrail and curb sites. Shoulders may be wider to accommodate either bicycle use (as described in subsection D) or on-street parking (as described in subsection F).
- D. *Increased shoulder widths to accommodate bicycles.*
 - a. For local roads with ADTs greater than 400 **, shoulder widths should be increased to 3 feet (5 against guardrail or curb areas) in order to accommodate bicycle traffic.
 - b. For paved arterial and collector roads, shoulders shall be 4-6 feet wide and paved in order to accommodate bicycle traffic. Where arterial and collector roads are not paved, an additional four feet shall be added to the width of the shoulder to accommodate bicycle use.
 - c. Other considerations for bicycles include a minimum width of 5 feet for grades exceeding 5% or where more than 30 heavy vehicles per hour are expected in an area.
- E. *Striping.* Paved shoulders should be delineated from motor vehicle lanes with a minimum 4-inch solid white edge line.
- F. *On-street parking.*
 - a. On-street parking is permitted only within the Village districts. The allowance of on-street parking shall be determined by the Selectboard on a case-by-case basis based on specific road characteristics and safety of the traveling public.
 - b. On-street parking lanes require approximately 7 feet of shoulder space with a desired width of 8 feet.
- G. *Curbing standards.*
 - a. Curbing is required only within the village district and only where determined by the Selectboard on a case-by-case basis.
 - b. Any curbing shall be a minimum of 7 inches in height and may be either vertical or sloped.

* Information on shoulder widths is variable across sources. State standards involve 4 tables each with multiple variables including speed limits, ADT, and other factors. The recommendation above is a simplified version that accounts for bicycle treatments. There is no requirement that local roads address bicycles but the state, regional planning commission, and others recommend it.

** ADT recommendations vary for wider shoulder treatments. 400 ADT was recommended here because it corresponds with paving recommendation. There also exist numbers from 500 ADT to 1000 ADT recommending wide shoulders for bicycle safety.

6.07 Slopes and Banks.

- A. Vertical or sharp cut faces, excepting ledge, shall not be permitted. Vermont Agency of Transportation Highway Standards A-60, A-61, and A62 should be referred to for ledge and slopes in rock excavations.
- B. Side slopes and banks shall strive to be no greater than 1 vertical to 3 horizontal but may be allowed as steep as 1 vertical to 1 ½ horizontal if necessary. Soil stability of banks shall be a design consideration. Slopes and banks shall be designed and constructed to prevent instability, slides, washes, or other disturbance to the slope or bank surface or subsurface. Banks shall not interfere with snow removal. After construction and final grading of banks, banks will be seeded and mulched to minimize surface erosion. Cribbing or riprap shall be provided where necessary.
- C. *Guard rails.* Guard rails of treated wood or steel shall be provided in accordance with Vermont Agency of Transportation specifications and standards. An additional 3-foot widening is recommended for proper support of guard rail posts at the outside of shoulders. Where slopes are 2:1 or steeper and the height of dropoff at the edge of shoulder exceeds 5 feet, guard rail should be installed. Where slopes are 3:1, guard rail may not be needed if the area at the bottom of the slope is free of hazards. Where slopes are 4:1 or flatter, guard rail is not normally required.

6.08 Ditches.

- A. *Drainage ditches.* Drainage ditches shall be provided where necessary and shall be constructed to prevent infiltration of water into the gravel sub-base and to conduct storm drainage to waterways and absorption areas.
- B. *Ditch lining.* Treatments vary depending on the slope of the ditch.
 - a. 0-5% slopes- grass lining (slopes over 2.5% may require fabric liner). See figures IV-14 and 15.
 - b. 5-10% slopes- R#3 (2-6 inch) diameter rock, 7.5 inches thick. See figures IV-16 and 17.
 - c. >10% slopes- R#4 (3-12 inch) diameter rock, 12 inches thick.
- C. *Ditch shape.* Ditch walls and side slopes shall be a maximum of 2 horizontal to 1 vertical ratio. The ditch bottom should be flat (parabolic-shaped preferred) and at least 2 feet wide.
- D. *Depth of ditch.* Drainage ditches next to roadways are normally to be at least 6 inches below the gravel sub-base or 18 inches below finished grade.
- E. *Outlet requirements.* All ditches require an outlet away from the road preferably an overland area where runoff can be absorbed into the soil.*
- F. *Other requirements.* The Selectboard may require other velocity control devices such as stone dikes, hay bale dikes, silt fence dikes, and log and brush check dams as necessary to protect the road and neighboring waterways.

Where a drop inlet is needed for a ditch drain, the Vermont Agency of Transportation Highway Standards D-3 should be consulted for specifications.

- G. *Storm sewers.* Where curbed and paved streets are proposed the Selectboard may require installation of storm sewers. Storm sewers shall be constructed in accordance with Vermont Agency of Transportation Highway Standards including, but not limited to, D-1 – D-17.

* State stormwater permits may require specific technologies including the creation of settling ponds.

6.09 Culverts and headers.

- A. Culverts are closed conduits used to convey water from one area to another usually from one side of a road to the other. Culverts greater than 6 feet in width are considered bridges.
- B. Culverts shall be installed during the construction of the highway and prior to highway sub-base and surface preparation and placement. Backfill in excavations for culverts shall be compacted to prevent or minimize settling in surface, shoulders or slopes. Culverts should be covered with a minimum of 12 inches of material except for plastic culverts which require a minimum of 18 inches of cover.

Driveway culverts are addressed under Article IX *Driveway and Highway Access Standards*.

- C. *Culvert locations.* Culverts shall be installed no more than 300 feet apart in one continuous ditch line, where there are existing water channels crossing the road, and wherever needed to control the volume and velocity of water. Where ditch slopes are between 3 and 10%, culverts should be installed every 150 feet. Where slopes exceed 10%, culverts should be installed every 100 feet.

When crossing a stream, select a culvert site so that there is no sudden increase or decrease gradient and there is a 50 feet straight alignment of the stream channel directly above the crossing.

- D. *Culvert alignment.* Ditch relief culverts should be installed at an angle of 60 degrees or less relative to the road centerline.

Stream crossing culverts should not be less than 45 degrees from centerline and is preferred to cross at 90 degrees. Wherever possible align culvert with stream channel.

- E. *Culvert slopes.* Culverts shall have a minimum slope of 0.5% to allow for a positive drainage flow.
- F. *Culvert material and shape.* Culverts may be steel, aluminum, plastic, or concrete depending on the situation. Plastic is the most common material used for smaller culverts. Specific engineering standards may be required for the particular application. Similarly, pipes may be circular, pipe arc, elliptical, and box are the most common shapes. Where questions arise, a qualified professional should be consulted to determine the appropriate shape.

- G. *Sizing culverts.* All culverts shall be a minimum of 18 inches in diameter. Culverts for small watersheds (less than 20 acres) may be sized by adding the acreage of the watershed to “8” then rounded up to the next culvert size (example: a 15 acre watershed would use a 24 inch culvert: $15 + 8 = 23$ inches, then rounded to 24 – the next culvert size).

Watersheds greater than 20 acres should be referred to a professional trained in hydrology for sizing and design of the culvert. All culverts should be sized to pass a 25-year design storm without over topping the road.*

- H. *Headwalls and end sections.* Headers shall be installed at the inlet of all culverts and may be either reinforced concrete eight inches thick, large flat rock tightly placed, or large cemented rock. The inside edge of headers shall be at least eight feet from the edge of the shoulder. The outside of the header should be flush with the end of the culvert. Marker posts four to six inches in diameter shall be installed at both ends of the culvert.

End sections shall not be used in any year round stream. Where end sections are required, an appropriately designed end section to prevent piping shall be installed.

- I. *Fish friendly design.* When crossing a stream, a culvert installation should not change the conditions of the stream that existed prior to the installation. Contact the state fisheries biologist for assistance with all stream crossings.

- J. *Outlets.* All culvert outlets should be protected from erosions and undermining by use of rock aprons, plunge pools, or slope drain sediment basins. Culverts should outlet to a vegetated area- never directly into a stream.

- K. *Splash pads, check dams, beaver fences, and trash racks.* The Selectboard may require splash pads, check dams, beaver fences, and trash racks as necessary to protect the road and neighboring waterways.

* Towns may design for less (10-year storms) or more (100-year storms) if they choose. Designing for larger storms may cost more in the short run but are less likely to fail in the event of catastrophic events. FEMA funding for disaster recovery requires towns to have adopted a minimum of 25-year flood standard.

6.10 Bridges.

- A. Plans for bridges must be submitted for review prior to construction. Construction will be authorized only after a review by VTrans which indicates that the bridge will meet all applicable VTrans Specifications.
- B. Before any new bridges are constructed, the town or developer shall investigate options to access from an existing bridge. In order to reduce future maintenance costs, the town's policy is to minimize the number of bridges in town.
- C. All bridges should be sized to pass a 25-year design storm without over topping the road.*

* Towns may design for less (10-year storms) or more (100-year storms) if they choose although the state has established 25 years as a minimum recommendation for state funding. Designing for larger storms may cost more in the short run but are less likely to fail in the event of catastrophic events. FEMA funding for disaster recovery requires towns to have adopted a minimum of 25-year flood standard.

6.11 Traffic Control Devices.

- A. All highways shall have traffic control devices in accordance with the Manual on Uniformed Traffic Control Devices (MUTCD).

6.12 Utilities.

- A. Telegraph and telephone lines, electric wires and two way wireless telecommunication facilities may be constructed and maintained in the highway right of way as long as the activity does not interfere with the use and maintenance of the highway. [30 V.S.A. §2502]

Other utilities that may be permitted within the right of way include, but are not limited to, water, sewer, and stormwater infrastructure, and cable television facilities.

- B. The Selectboard may require some or all of these utilities to be buried within the right of way. The developer shall coordinate with the appropriate utility companies to insure adequate and suitable area and standards for underground installations. The developer shall be responsible for providing for water mains, manholes, sanitary sewers, and all other infrastructure necessary for the proper management of the facilities.
- C. As-built locations of all buried utilities are required on all final surveys prior to recording.

6.13 Pedestrian Facilities.

- A. Sidewalks are required only within the village district and only where determined by the Selectboard on a case-by-case basis.*
 - a. Pedestrian facilities are not expected along arterial highways except where these highways pass through village areas. Pedestrians are expected to use shoulder areas. Special circumstances, such as schools and recreation areas, may necessitate sidewalks outside of the village to connect to other pedestrian networks.

- B. Any sidewalks shall be a minimum of 5 feet wide and may be as wide as 10 feet in central business areas. All sidewalks shall be designed in accordance with the *Vermont Pedestrian and Bicycle Facility Planning and Design Manual* (2002 or as most recently amended).

* Towns may adopt more detailed standards or reference a specific sidewalk or pedestrian plan. More urbanized areas are likely to have more detailed plans and standards; the *Pedestrian and Bicycle Facility Planning and Design Manual* provides more options.

6.14 Highway Location and Geometry.

- A. *Basic Geometric Standards.* Design criteria have been summarized herein. Other design criteria not discussed should use AASHTO minimum design standards as presented in the most recent *Policy on Geometric Design of Highways and Streets*.
- B. *Grades.* A maximum grade for paved roads is 10% and a gravel road is 7%.*
- C. *Curves.* Radius of all curves shall be long enough to permit easy flow of traffic, including trucks, graders, and fire engines, with at least 100-foot radius in all cases, measured on the center line.
- D. *Elevation.* No roads shall be accepted over 1500 feet elevation except as trails or class 4 roads.**
- E. *Connection to public highway system.* All highways and right of ways must access a public highway on one of its terminus.
- F. *Design Speed.* Arterial highways should be designed for speeds of 50 mph unless terrain, village settings or other conditions dictate lower speed limits. Non-arterial highways may be designed for speeds between 25 and 50 mph depending on terrain and driver characteristics. Where highways are designed for speeds less than 50 mph, appropriate traffic control devices shall be used to communicate this to travelers.
- G. *Intersections.* Road intersections should meet minimum access design standards for driveways and highways (Article IX of this ordinance).
- H. *Dead End Highways.* Dead end highways are discouraged and where present shall not be any longer than 1,200 feet in length. “Ts” or “hammerheads” are required at the terminus of all dead ends. Cul-de-sac designs are discouraged but may be permitted provided it has a minimum turn-around radius of 35 feet.
- I. *Extensions.* Highways shall be arranged to provide for extensions or connections of eventual highway systems necessary to develop abutting land in future subdivisions.
- J. *Protection of Natural Resources.* All proposed highways must minimize loss of critical habitats including wetlands, prime agricultural soils. Highways shall maintain a 50 foot setback from all perennial streams and rivers (except to cross) and a 100 foot setback from any lake shore.

For new highways the overall master plan must minimize stream crossings and design to cross at locations that will have the least chance for erosion and undercutting.

* These are recommended based on erosion potential and winter highway safety.

** Elevation limits have been proposed in some towns due to the increased difficulty of winter maintenance at higher elevations. Towns could choose higher or lower elevations as they see fit for their community.

ARTICLE VII. ACCEPTING A PRIVATE STREET AS A TOWN HIGHWAY

7.01 Accepting a Private Street (or Private Right of Way) as a Town Highway

Applicability. The acceptance of a highway by the municipality means the receipt of the right of way needed for a new highway. In most cases this includes the acceptance of the completed roadway as well.

Town objectives. It is the policy of the Town of Cambridge to entertain applications for the acceptance of public highways and rights of way and to adopt and adhere to an orderly procedure for the receipt of, and acting upon, such application. The decision of an application for acceptance of a highway or right of way is reserved to the sole and absolute discretion of the Selectboard who will consider the grant or denial of an application on the basis of the best interest of the inhabitants of the town.

The Town of Cambridge will consider applications to accept highways in one of two conditions: 1) Only the right of way transferred to the town and classified as a trail (no roadway present and not intended for travel at this time but which may be anticipated in the future); and 2) a completed roadway built to town standards. The town does not generally accept substandard roadways or roadway prior to construction (see Section 8.01-*Application to Lay Out or Alter Highways*).

Initiating proceedings. The acceptance of a highway is initiated through one of two means: motion of the Selectboard or petition filed by persons who are either voters or landowners and whose number is at least five percent of the voters in the Town of Cambridge (19 V.S.A. §708(a)).

The petition or motion shall state clearly the extent and intended classification of the highway to be accepted (e.g. ... to accept, as a class 3 highway, Lonely Lane from the intersection with town highway #10 for a distance of 0.32 miles west).

Application process. Applications for final consideration must include a proposed plat and documentation as described below. In the case of accepting a roadway, final consideration will only occur after the road has been fully constructed and in use as a private street for a period of not less than 12 months.

- A. A survey to be made in accordance with the provisions of Article IV of this ordinance and 19 V.S.A. §33 shall mark the termination of the survey by a permanent monument or boundary or refer the termination or survey by course and distance, to some permanent monument. This survey shall describe the highway and the right-of-way by courses, distances and width, and shall describe the monuments and boundaries [19 V.S.A. §704].

- B. Documentation includes copies of all local and state permits regarding the creation of the road and/or right of way. As built drawings shall be submitted identifying all above and belowground utilities, signs, etc.

Notice and hearing. The Selectboard shall promptly appoint a time and date both for examining the premises and a hearing of interested persons. Notice shall be sent by certified mail, at least 30-days in advance, to all persons owning land through which the highway may pass or abut. At least 10 days before the set time for the hearing, notice shall be provided to the Municipal Planning Commission in which the road is being proposed, notice shall be posted in the Town Clerks Office, and shall be posted in a newspaper of general circulation. (19 V.S.A. §709)

Review standards. All roadways proposed for acceptance by the Town of Cambridge must meet the minimum standards established in Article VI and any *Highway Acceptance Policies* adopted by the municipality. The Selectboard retains the right to deny acceptance of any proposed roadway for any reason, contained or not contained within this ordinance.

Decisions. Within sixty days of examining the premises and hearing any interested parties, the Selectmen shall return the petition with a report of their findings and a decision to either deny the application or formally accept the highway by resolution of the Selectboard.

Appeals. A person not satisfied with the decision may appeal to the district court (19 V.S.A. §726) or to the superior court (19 V.S.A. §740).

Recording requirements. The clerk shall record the order accepting the road and the plat describing the new highway. The final plat shall also be recorded and attested by signature of the chair of the Selectboard recorded in the Town Clerk's Office.

ARTICLE VIII. LAY OUT, ALTER, RECLASSIFY, OR DISCONTINUE A TOWN HIGHWAY

8.01 Application to Lay Out or Alter Highway

Applicability. Laying out new public highways or altering existing public highways is the responsibility of the Selectboard. In most cases these actions are the result of Selectboard and rarely by petition. For the most part, laying out of new highways occurs through the construction of private roads and an application to accept after the roadway is complete (see Article VII *Application to accept a private street*).

Town objectives. The Town of Cambridge shall entertain applications to lay out or alter highways when the proposed improvements will result in greater safety and/or improved efficiency of the system. The decision of an application to lay out or alter a highway or right of way is reserved to the sole and absolute discretion of the Selectboard who will consider the grant or denial of an application on the basis of the best interest of the inhabitants of the town.

Initiating proceedings. The laying out or altering of a highway is initiated through one of two means: motion of the Selectboard or petition filed by persons who are either voters or landowners and whose number is at least five percent of the voters in the Town of Cambridge (19 V.S.A. §708(a)).

Preliminary meeting. In an effort to minimize costs to the applicant and municipality, a preliminary review of the application shall take place. The purpose of the preliminary meeting is to clarify issues in controversy, identify documents, plans, detailed information that should be submitted as evidence at a hearing, and to circumvent untimely and unnecessary delays that would interfere with the public hearing process.

Where the Selectboard is not inclined to lay out or alter a highway, the board may reject the application prior to investment in surveys and other costs. Decisions by the Selectboard to proceed in the application process does not guarantee acceptance and the applicant does not gain any vested interest.

Application process. When the Selectboard lays out or alters a highway, as provided herein, they shall cause a survey to be made in accordance with the provisions of Article IV of this ordinance and shall mark the termination of the survey by a permanent monument or boundary or refer the termination or survey by course and distance, to some permanent monument. This survey shall describe the highway and the right-of-way by courses, distances and width, and shall describe the monuments and boundaries. [10 V.S.A. §704]

Notice and hearings. The Selectboard shall promptly appoint a time and date both for examining the premises and a hearing of interested persons. Notice shall be sent by certified mail, at least 30-days in advance, to all persons owning land through which the

highway may pass or abut. At least 10 days before the set time for the hearing, notice shall be provided to the Municipal Planning Commission in which the road is being proposed, notice shall be posted in the Town Clerks Office, and shall be posted in a newspaper of general circulation. (19 V.S.A. §709)

Review standards. All highways to be laid out or altered by the Town of Cambridge must meet the minimum standards established in Article VI. Where an existing highway does not meet minimum standards established in Article VI and altering to meet full compliance is not reasonable, the proposed altered highway must at least be as compliant as the original highway.

Other considerations- Compensating landowners. In any situation where the Selectboard determines that a person through whose land the highway passes or abuts, is entitled to damages the town shall pay or tender to him or her, damages as the Selectboard determines reasonable (19 V.S.A. §712). The Selectboard should receive legal council on any project where damages may be expected to be tendered.

Decisions. Within 60 days of the hearing, the Selectboard must return the original petition with a report on its findings and, if necessary, a completed survey (19 V.S.A. §711(a)).

Appeals. A person not satisfied with the decision may appeal to the district court (19 V.S.A. §726) or to the superior court (19 V.S.A. §740).

Recording requirements. The Selectboard's order, with the survey shall be recorded by the town clerk (19 V.S.A. §711(a)).

8.02 Application to Reclassify or Discontinuing Highway

Applicability. Reclassifying a highway by the municipality means to change the classification of a highway while discontinuing a highway is the removal of public interest in a previously designated town highway where all public rights are reconveyed to the adjoining landowners.

Town objectives. The Town of Cambridge shall entertain applications to reclassify or discontinue highways and trails when the proposed changes are in the public good, necessity and convenience of the inhabitants of the municipality. The decision of an application to reclassify or discontinue a highway or trail is reserved to the sole and absolute discretion of the Selectboard who will consider the grant or denial of an application on the basis of the best interest of the inhabitants of the town.

Initiating proceedings. The reclassification or discontinuance of a highway or trail is initiated through one of two means: motion of the Selectboard or petition filed by persons who are either voters or landowners and whose number is at least five percent of the voters in the Town of Cambridge (19 V.S.A. §708(a)).

Notice and hearings. The Selectboard shall promptly appoint a time and date both for examining the premises and a hearing of interested persons. Notice shall be sent by certified mail, at least 30-days in advance, to all persons owning land through which the highway may pass or abut. At least 10 days before the set time for the hearing, notice shall be provided to the Municipal Planning Commission in which the road is being proposed, notice shall be posted in the Town Clerks Office, and shall be posted in a newspaper of general circulation. (19 V.S.A. §709)

Discontinuance proceedings must include notice to the Commissioner of Forests, Parks and Recreation before the right of way is abandoned so that there is opportunity for the former highway to be designated as a trail. If the discontinued highway is not designated as a trail the right of way shall belong to the owners of the adjoining lands [19 V.S.A. §775].

Review standards. There are no specific standards by which the Selectboard is required when reclassifying or discontinuing highways.

- A. VTrans has exclusive right to designate class 1 town highways.
- B. Municipalities may designate highways as class 2 with approval of VTrans.
- C. Class 3 and 4 highways are the responsibility of the municipality.
 - a. When reclassifying roads from class '4' to class '3', the road shall be brought up to the road standards established in Article VI of this ordinance. The Selectboard shall also consult the municipality's *Class 4 Highway Maintenance and Use* policies, if ones have been adopted.
 - b. A class 4 highway need not be reclassified to class 3 merely because there exists within the town one or more class 3 town highways with characteristics similar to the class 4 highway. In considering whether to reclassify a class 4 highway to class 3, consideration may be given as to whether the increased traffic and development potential likely to result from the reclassification is desirable or is in accordance with the town plan. [19 V.S.A. §708(b)].

Decisions. Within sixty days of examining the premises and hearing any interested parties, the Selectmen shall return the petition with a report of their findings and a decision whether or not to reclassify or discontinue the highway by resolution of the Selectboard. (19 V.S.A. §711(a)).

Appeals. A person not satisfied with the decision may appeal to the district court (19 V.S.A. §726) or to the superior court (19 V.S.A. §740).

Recording requirements. The Selectboard's order shall be recorded by the town clerk (19 V.S.A. §711(a)).

ARTICLE IX. DRIVEWAY & HIGHWAY ACCESS STANDARDS

9.01 Highway access permit procedures

Applicability. Under 19 V.S.A. 1111(b), the Selectboard has the authority to regulate access onto public roads. Any new access or change in an existing access onto a public roadway must receive an access permit from the road commissioner. Access permits regulate the location, design and construction of the access.*

Town objectives. The purpose of these driveway and highway access requirements is for the Town to ensure safe and efficient entrance and exit from public highways, to reduce damage from flood events, to mitigate erosion and stormwater runoff impacts, and to ensure quality construction of driveway and road accesses.

Initiating proceedings. An application for a highway access permit shall be submitted to the road commissioner at least seven days prior to the anticipated construction. No construction shall take place until the Town has issued a highway access permit.

Review standards. All accesses shall meet standards established in Section 9.02 of these regulations.

Decisions. The road commissioner shall review and issue access permits in instances where the application meets all applicable standards. Where an application is denied the applicant can appeal the decision to the Selectboard to request the standard be waived or varied.

Recording requirements. All access permits shall be recorded in the Town Clerk's Office where other land use permits are filed.

* Some towns divide highway access permit responsibilities between the Selectboard and Development Review Board (DRB). In these cases the Selectboard establishes requirements for construction while the DRB would determine the location and design of accesses (standards connected to the land use of the property). The DRB is more likely to address these factors during subdivision applications to ensure all newly created lots have a safe location for ingress and egress. For existing lots in the zoning process, the DRB has authority to require access improvements to increase safety.

9.02 Highway Access Standards.

These highway access standards establish minimum standards for location, design, construction, and maintenance of driveway accesses and highway intersections. These regulations apply to the portions of these accesses and intersections that fall within the town's right of way. The Selectboard may stipulate other conditions for portions of the driveway outside of the right of way where the activity may affect the integrity of soils and streams within the right of way.

- A. *Reasonable Access.*
 - a. The Selectboard cannot deny reasonable access to public highways. This is a judgment the Selectboard has to make balancing the right of access with public safety. Among other things, reasonable access includes considering alternate driveway locations, sharing of right of way with others, limiting the use of the property (in conjunction with zoning), and requiring additional engineering and construction.
 - b. Certain conditions may make reasonable access impossible (e.g. landlocked parcel; all road frontage is a class 2 wetland). It is not the responsibility of the Selectboard to obtain or remedy a lack of frontage or access for a property owner.

- B. *Location.**
 - a. Lots shall be limited to a single access unless a second access would result in greater safety.
 - b. Where a site occupies a corner of two intersecting roads, the roadway access shall be on the less traveled road.
 - c. No access shall be constructed within 10 feet of a neighboring property unless the driveway will act as a shared access.**
 - d. No access or intersection shall be within 100 feet from a road intersection or another driveway unless the driveways or roads oppose each other. No more than two highways shall intersect at any one point. ***
 - e. *Sight Distance.* All accesses and intersections must have a safe line of sight so as to prevent the construction of blind or hidden driveways and roads.
 - i. A vehicle operator preparing to exit should be able to see unobstructed a minimum of 400 feet in either direction when entering a 50 mph zones. The sight distance drops to 275 feet for a 40 mph zone and 200 feet for a 30 mph zone. Nothing should be erected, placed, planted, or allowed to grow in a triangle of vision so as to impair the vision of the motorist.
 - ii. No access shall be constructed closer than 500 feet from a sharp curve, hill, or blind area (50 mph zone). This minimum corner distance drops to 440 feet at 40 mph, and 330 feet at 30 mph.

- C. *Design.**
- a. *Width.*
 - i. Widths for a residential driveway shall be between 25 and 35 feet measured at the edge of the traveled portion of the highway. The travel portion of the drive should narrow to between 12 and 24 feet at the edge of the highway right of way. A minimum curb radius of 5 feet is required.****
 - ii. Widths for a commercial or industrial drive shall be between 24 and 50 feet measured at the edge of the traveled portion of the highway. The travel portion of the drive should narrow to between 16 and 24 feet at the edge of the highway right of way. A minimum curb radius of 10 feet is required. Access widths shall be established based on anticipated traffic including the size and amount of truck traffic anticipated.****
 - b. *Grade.* Entrances must be constructed with no more than 3% grade away from the road for a distance of at least 20 feet.
 - c. *Alignment.* Driveways and highways should intersect the highway at a preferred angle of 90 degrees but no less than 60 degrees.
- D. *Access Construction Standards.*
- a. *Foundation.* Portions of driveways within the limits of the right of way shall have a minimum of 12 inches of sub-base material; commercial and industrial sites shall have sub-base depths sufficient to carry the expected vehicle and truck traffic.
 - b. *Upper Base.* Gravel drives should have a minimum aggregate surface course of six inches.
 - c. *Roadway Crown.*
 - i. Paved accesses shall have a cross slope from centerline to edge of travel lane, of $\frac{1}{4}$ inch per foot. The cross slope of the shoulder, if present, shall be $\frac{3}{4}$ inch per foot.
 - ii. Gravel accesses shall have across slope from centerline to edge of shoulder of $\frac{1}{2}$ inch per foot.
 - d. *Paving.* Where a gravel drive or highway is accessing a paved highway, a paved apron at least 10 feet in length is required. Where paving is required, the access shall be paved with a minimum of two inches of bituminous asphalt concrete.*****
 - e. *Culverts and headers.*
 - i. Driveway culverts shall be a minimum of 15 inches in diameter.***** The final size shall be determined based on the size of the drainage watershed above the culvert.
 - ii. See Section 6.09 *Minimum Highway Standards- Culverts and headers* for additional construction details.

- iii. Culverts under driveways and access roads should be placed away from the road as far as practical while maintaining good drainage.
- f. *Ditches.* Drainage ditch shall be provided where necessary and shall be constructed to prevent infiltration of water into the gravel sub-base and to conduct storm drainage to waterways and absorption areas. See Section 6.08 *Minimum Highway Standards- Ditches* for additional construction details.

The maintenance of all ditches and culverts is the responsibility of the owner of the abutting property.*****

* Location and design are two of the standards that can be administered through the zoning and subdivision process.

** Vermont Local Roads recommends 20 feet from neighbor lines.

*** The Selectboard may choose a greater distance (150 feet) or may base offset on the class of road (300 feet on arterial and collector roads, 100 feet on other local roads).

**** Urban areas have experienced difficulty meeting some minimum standards. Selectboards may need to build in flexibility for urban settings.

***** Paved aprons are not required in all areas but are required in many communities to provide a transition area to protect the existing paved road.

***** Some towns require 18 inch culverts for driveway accesses.

***** Maintenance can be either the responsibility of the municipality or the abutting owners.

ARTICLE X. RIGHT OF WAY EXCAVATION PERMIT

10.01 Right of Way Excavation Permit

Applicability. No developer shall disturb the ground or pavement in any town highway without first obtaining a written permit from the Road Commissioner or their designee. Where an excavation is limited to construction of a driveway access, the rules and regulations for access permits shall apply.

Town objectives. The Town of Cambridge shall protect its investment and ownership of the highway system through regulation of any development within the highway right of way.

Application process. Applications for an excavation permit or for improvements to unimproved portions of the public right of way shall be made on forms furnished by the Town of Cambridge.

Emergencies. Nothing in this Article shall be construed to prevent the making of excavation as may be necessary for the preservation of life or property, provided that the developer making such excavation shall apply for a permit on the first working day after such excavation is commenced. Even in emergency situations, notice shall be given by phone to the Highway Department and Police Department Dispatch, if applicable. All provisions of the article shall apply to such emergency.

General conditions of permit approval.

- A. All work shall be conducted by a professional contractor. The contractor shall supply a current certificate of insurance before work commences. The contractor shall have proof of general liability coverage in a minimum amount of \$500,000.00. This insurance shall include coverage for owned, non-owned and hired vehicles. The Road Commissioner or their designee will accept satisfactory evidence of self insurance in lieu of the above coverage. During work in the right of way the above referenced insurance shall not be canceled without thirty (30) days written notice to the Road Commissioner or designee.
- B. Proof of a proper permit or license to do the work shall be provided, if such license is required under the laws of the State or ordinances of the Town.
- C. The contractor shall provide proof of a dig safe number.
- D. The contractor shall provide a plan for the protection of shade and ornamental trees and the restoration of turf.

E. Final inspection shall be conducted one year from completion of the project construction.

F. Where an excavation is to plant a tree within the public right of way, the Road Commissioner or designee may waive any of the above requirements.

Decisions. The Road Commissioner or their designee reserves the right to withhold the issuance of permits when:

A. Paving materials are unavailable; or

B. A satisfactory traffic, pedestrian, or utility diversion plan cannot be implemented; or

C. Unsatisfactory compliance with the General Conditions above.

Recording requirements. All right of way permits shall be recorded in Town Clerks Office where other land use permits are filed.
