

**House Fish Wildlife and Water Resources Committee**  
**H.586**  
**Transportation Sections**  
**Vermont League of Cities and Towns Testimony**

**Wednesday, January 22, 2014**

Thank you for the opportunity to testify on the transportation sections of H.586, Sections 16, 17, 18 and 19.

H.586 would mandate that municipalities adopt road and bridge standards that include “best management practices to address water quality and that meet or exceed the minimum requirements of the Agency’s recommended town road and bridge standards” (p. 34, Sec. 16, 19 V.S.A. § 303). H.586 would assess a \$5000/day penalty for failure to adhere to its adopted standards up to a total of \$25,000. It would provide that towns that do not adopt the standards as of 2015 would forfeit five percent of the town’s total state aid allocation and those funds would be reallocated to towns that have adopted the standards (p. 36, Sec. 17, 19 V.S.A. § 306 (6)).

There is history here. Town Road and Bridge standards were initially required by FEMA in 1999 in order to be eligible for certain FEMA benefits related to facility upgrades before a public assistance disaster declaration. Towns that adopted the standards after 2002 and completed a network inventory were eligible for an additional 10% state funding under the Town Highway Class 2 and Town Highway Structures grant programs.

In 2010, Act 110 directed the Agency of Transportation to work with municipal representatives to revise the Town Road and Bridge Standards to address activities with potential for causing pollutants to enter the waters of the state. A municipality had to adopt the January 4, 2011 Town Road and Bridge standards in order to receive 80% state funding for Class 2 roadway grants and 90% funding for Town Structures grants.

In 2013 after Tropical Storm Irene, the Town Road and Bridge Standards were further amended to assure that FEMA would reimburse for the full value of improved infrastructure to accommodate high flows in the aftermath of a federally declared disaster. Those upgrade infrastructure improvements are required when a municipality gets a stream alteration permit as part of a project.

From 1999 to 2001 the standards did not change in any significant way. Two hundred and twenty-eight municipalities adopted those standards. In 2011, the standards were updated to address stormwater issues and the statute was changed so that 180 towns adopted those standards.


To date, 146 towns have adopted Town Road and Bridge standards that meet or exceed the 2013 standards and 52 towns have received a certificate of compliance. In my inquiries with some of those who have not adopted updated standards, I found that quite a few expect to adopt the standards in the near future or have adopted them and the VTrans spreadsheet is not reflecting that action. Several towns have adopted standards that are similar to the 2013 standards, despite

the fact that a number of local officials do not concur that the standards will achieve the desired results of reducing runoff in all situations.

The EPA has not yet approved the Lake Champlain Cleanup Plan. Municipalities that do not adopt the standards already suffer a penalty in terms of reduced municipal highway aid and reduced compensation in the eventuality of a federally declared disaster. The cost of implementing new Town Road and Bridge standards is immense, and at the local level comes out of the significantly overburdened property tax when town highway aid is insufficient to cover the cost of a project. We believe these sanctions are powerful in their own right and do not believe you need to mandate the adoption of town road and bridge standards.

I attach the three versions of standards for your review so you may see the progression of requirements from 2001 to 2013.

Thank you,



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Apr - 2011

# TOWN ROAD AND BRIDGE STANDARDS of the

## TOWN OF \_\_\_\_\_, VERMONT

The town of \_\_\_\_\_ hereby adopts the following Town Road and Bridge Standards which shall apply to all future road and bridge construction within the Town (unless State or federal funding regulations supersede this document).

The standards listed here are considered minimum and are presented for purposes of guiding construction and maintenance personnel. 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. Fiscal reasons are not a basis for modification of the standards.

Any new road, whether or not that road is proposed to be conveyed to the town, shall be constructed according to the minimums of these standards. If any federal and/or state funding is involved in a project, the VTrans district office will be notified prior to any field changes taking place that would alter the original scope of work.

### Roadways

All gravel roads will have at least a 15-inch thick processed gravel subbase, with the top 3 inches being crushed gravel. Material will be graded so that water does not remain on the road surface, and have adequate space for proper ditching.

### Ditches

Soil exposed during ditch and slope construction or maintenance will be treated immediately following the operation as follows:

- Seed and mulch slopes less than 2.5%
- Placing biodegradable matting and seed on slopes between 2.5% and 5%
- Stone lining ditches with angular material on slopes greater than 5%

### Culverts and Bridges

- All new driveway culverts will have a minimum diameter of 15 inches.
- All new roadway culverts will have a minimum diameter of 18 inches.
- Any culvert greater than or equal to 36 inches in diameter will be designed according to the latest VTrans Hydraulics Manual. End treatment (inlet or outlet) will also be evaluated in accordance with this manual.
- All bridges (structures with spans greater than 6 feet) will have waterway openings designed in accordance to the latest VTrans Hydraulics Manual.

### Guardrail

When new road or culvert construction creates side slopes steeper than 1 on 3, guardrail will be installed according to AASHTO Roadside Design Guide.

Passed and adopted by the Selectboard of the Town of \_\_\_\_\_, State of Vermont on \_\_\_\_\_, 20\_\_.

Select Board \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## Codes & Standards Certification of Compliance for Town Road and Bridge Standards

We, the Legislative body of the Municipality of \_\_\_\_\_ certify that we have reviewed, understand, and comply with the Town Road and Bridge Standards passed and adopted by the selectboard on , 20 .

\_\_\_\_\_ Date: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(Duly Authorized Administrator)

January 4, 2011

**TOWN ROAD AND BRIDGE STANDARDS**  
**TOWN OF \_\_\_\_\_, VERMONT**

The Town of \_\_\_\_\_ hereby adopts the following Town Road and Bridge Standards which shall apply to the construction, maintenance and repair of all town roads and bridges.

The standards listed here are considered minimum and are presented for purposes of guiding construction and maintenance personnel. The standards listed here include three types of management practices and are designed to: ensure the safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections by minimizing sediment delivery to surface waters and/or wetlands. The select board 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. Any modifications to the standards must be done in a manner that protects the underlying intent of the management practice, be it public safety, flood hazard avoidance, or water quality protection. Fiscal reasons are not a basis for modification of the standards. Questions about modifications to the standards should be directed to the VTrans District Office.

Any new road, whether or not that road is proposed to be conveyed to the town, shall be constructed according to the minimums of these standards. If any federal and/or state funding is involved in a project, the VTrans district office will be notified prior to any field changes taking place that would alter the original scope of work.

**Roadways**

- All new or substantially reconstructed roads will have at least a 15-inch thick processed gravel subbase, with gravel roads having the top 3 inches (minimum) as crushed gravel.
- All roadways will be graded so water does not remain on the road surface. For roadways that are not superelevated, this generally means a 2-4% ( $\frac{1}{4}$ " -  $\frac{1}{2}$ " per ft) crown for gravel roads and a 1-2% ( $\frac{1}{8}$ " -  $\frac{1}{4}$ " per ft) crown for paved roads to promote sheeting of water.
- 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.

**Ditches and Slopes**

Soil exposed during ditch and slope construction or maintenance will be treated immediately following the operation. Priority should be given to areas vulnerable to erosion immediately adjacent to or discharging to surface waters and/or roadway drainage facilities. The following are minimum erosion control measures:

- Seed and mulch ditches with grades less than 2%. Use biodegradable, non-welded matting and seed on ditches with grades between 2% and 5%. Stone line all ditches with grades greater than 5%; alternatively, install stone check dams. Dams should be comprised of a well graded stone matrix 2 to 9 inches in size. Dams should not exceed 2 feet in height and check dam crest should be at least 6" below the top of the ditch.

January 23, 2013

## TOWN ROAD AND BRIDGE STANDARDS TOWN OF \_\_\_\_\_, VERMONT

The Town of \_\_\_\_\_ hereby adopts the following Town Road and Bridge Standards which shall apply to the construction, repair, and maintenance of all town roads and bridges.

The standards listed here are considered minimum and apply to construction projects and repair and maintenance activities. The standards include management practices and are designed to: ensure the safety of the traveling public, minimize damage to road infrastructure during flood events, and enhance water quality protections by minimizing sediment delivery to surface waters and/or wetlands.

The select board reserves the right to modify the standards for a particular project or repair or maintenance activities where, because of unique physical circumstances or conditions, there is no possibility that the project or activities can be completed in strict conformance with these provisions. Any modifications to the standards must be done in a manner that serves the underlying intent of the management practice, be it public safety, flood hazard avoidance, or water quality protection. Fiscal reasons are not a basis for modification of the standards. Questions about modifications to the standards should be directed to the VTrans District Office.

Municipalities must comply with all applicable state and federal approvals, permits and duly adopted standards when undertaking road and bridge activities and projects.

Any new road regulated by and/or to be conveyed to the municipality shall be constructed according to the minimums of these standards. If any federal and/or state funding is involved in a project, the VTrans district office must be notified prior to any field changes taking place that would alter the original scope of work.

### Roadways

- All new or substantially reconstructed gravel roads shall have at least a 12-inches thick processed gravel sub-base, with an additional 3 inches (minimum) top course of crushed gravel.
- All new or substantially reconstructed paved roads shall have at least a 15 inches thick processed gravel sub-base.
- All roadways shall be graded so water does not remain on the road surface. For roadways that are not super-elevated, this generally means a 2-4% ( $\frac{1}{4}$ " -  $\frac{1}{2}$ " per ft) crown for gravel roads and a 1-2% ( $\frac{1}{8}$ " -  $\frac{1}{4}$ " per ft) crown for paved roads to promote sheeting of water.
- Proper grading techniques for gravel roadways must 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 must be removed.

### **Ditches and Slopes**

Soil exposed during ditch and slope construction, repair or maintenance must be treated immediately following the operation and temporary erosion prevention and sediment control practices must be installed and maintained during construction activities and until the ditch or slope is permanently stabilized.

The following are minimum erosion control measures. Careful attention must be given to areas vulnerable to erosion and immediately adjacent or discharging to surface waters and/or roadway drainage facilities:

- Seed and mulch all ditches with grades less than 5% when undertaking projects or repairs or maintenance activities that result in exposed soil. Vegetation must be established and monitored. If vegetation is not established within 10 days of placement, install biodegradable non-welded matting with seed.
- Stone line all new or reconstructed ditches or whenever soils are disturbed by maintenance activities with grades equal to and greater than 5%; alternatively, install stone check dams. The check dams must meet criteria outlined in the *"Standards and Specifications for Check Dams,"* from the *Vermont Standards and Specifications for Erosion Prevention and Sediment Control*. Specifically, dams must be placed so that the crest of the downstream check dam is at the same elevation as the base of the upstream dam.
- Create parabolic (wide "U" shaped) ditches when constructing new or substantially reconstructing ditches, rather than narrow "V" shaped ditches wherever lateral space allows. Ditches with gradual side slopes (maximum of 1:2, vertical to horizontal ratio) and a wide bottom (at least 2 feet) are preferred. Use biodegradable, non-welded matting to stabilize side-slopes where slopes are greater than 1:2 and less than 1:1 ½; apply seed and mulch to any raw or exposed side-slope if slopes are less than 1:2.
- All ditches must be turned out to avoid direct outlet into surface waters. There must be adequate outlet protection at the end of the turnout, either a structural (rock) or vegetative filtering area.
- If in the best professional engineering judgment of the VTrans Operations Division, there is a cost effective ditch treatment that will meet the intent of the management practices described above, but represents a departure from these standards, the municipality may implement the more cost effective ditch treatment alternative with the professional recommendation submitted in written form by VTrans prior to the municipality executing the work.
- When constructing new or substantially reconstructing side slopes, use appropriately sized stone armament on slopes that are 1:1½ or greater. If perennial streams are affected by the toe of slope the project must conform to the statewide Stream Alteration standards.

### **Culverts and Bridges**

- Replacement of existing culverts and any new culvert must have a minimum culvert diameter of 18 inches.
- Replacement of existing bridges and culverts and any new bridges and culverts must be designed in accordance with the VTrans Hydraulics Manual, and, in the case of perennial streams, conform to the statewide Stream Alteration standards.
- All new driveway culverts must have a minimum diameter of 15 inches.
- When installing or replacing culverts, use appropriate techniques such as headwalls and wingwalls, where there is erosion or undermining or where it is expected to occur.

- Install a splash pad or plunge pool at the outlet of new or repaired drainage culverts where there is erosion or where erosion may occur. Splash pads and plunge pools are not appropriate for use in streams supporting aquatic life.

**Guardrails**

When roadway, culvert, bridge, or retaining wall construction or reconstruction projects result in hazards such as foreslopes, drop offs, or fixed obstacles within the designated clear-zone, a roadside barrier such as guardrail must be installed. The most current version of the AASHTO Roadside Design Guide will govern the analysis of the hazard and the subsequent treatment of that hazard.

**Access Management**

The town must have a process in place, formal or informal, to review all new drive accesses and development roads where they intersect Town roads, as authorized under 19 V.S.A. Section 1111. Towns may reference VTrans A-76 Standards for Town & Development Roads and B-71 Standards for Residential and Commercial Drives; and the VTrans Access Management Program Guidelines for other design standards and specifications.

**Training**

Town highway maintenance crews must collectively attend a minimum total of 6 hours of training per year on best road management practices. The town must keep documentation of their attendance for a period of three years.

**Passed and adopted by the Selectboard of the Town of \_\_\_\_\_, State of Vermont on \_\_\_\_\_, 20 .**

**Select Board:**

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