



# Vermont Better Roads Grant Program Application

Please complete one application per category and/or project you are applying for. You may make copies of the application for multiple applications per category and/or multiple categories.

Please check the Category you are applying for:

- B. Correction of a Road Related Erosion Problem and/or Stormwater Mitigation Retrofit for both gravel and paved roads
- C. Correction of a Stream Bank or Slope Related Problem
- D. Structure/culvert upgrades

Town/Organization: Town of Strafford

Project Name: Old City Falls Slope Stabilization

Road Name: Old City Falls Road TH #: 6 Structure # (if applicable): 27

Road Type: Unpaved  Uncurbed   
                  Class 3

Watershed: Old City Brook

Please provide a thorough description of the problem (ex. Roadway has steep slope with no ditch which is causing roadway erosion):  
The upstream embankment at abutment has heavy erosion due to road runoff.

Description of Project and how you plan to complete the work (ex. Stone line 500' of ditch by reshaping ditch and stone lining, working from the top of the project down to the bottom):  
Because of the depth of the erosion to the stream bed, the Town will have to hire a company with an extra-long excavator boom with thumb to complete the slope stabilization. Large rip-rap for base and small stone for chinking in.

Expected Effects (+ & -) on water quality (ex. Erosion will be eliminated by placing the stone ditch):  
Will keep bridge abutment from further erosion and stabilize bank.

Received

MAR 20 2016

VTrans  
PDD-LTF



Describe how the grant funds will be spent and/or attach a project budget:  
Cost estimate attached

How do you plan to meet the required 20% match on this grant?:  
Town Highway budget

Requested Grant Amount (\$20,000 max Category B, \$40,000 max Categories C & D): \$ 9,192.00

Estimated Total Project Cost (including 20% local match): \$ 11,490.00

Estimated Completion Date: 09/01/2016

**REQUIRED ATTACHMENTS:**

- Itemized Cost Estimate (labor, equipment, materials)  
(For assistance, call Better Backroads at 802-828-4585)
- Project Location Map  
(Please show location of affected water; 1:12,000 USGS map, if possible)
- Sketch of proposed erosion control measures, including:
  - Distances (ft.)
  - Estimate of waste & borrow quantities
  - Approx. location of town/other right-of-way and/or property lines
- Photo(s) of the project area.
- Agreement for Entry and/or Deed of Easement (if project is outside Town ROW).
- If project involves stream or river/road conflict, include documentation of consultation with a River Management Engineer.
- Other appropriate supporting documents.

By signing this application I certify that all the information provided is accurate to the best of my knowledge. We will comply with all the requirements of the grant including making our books available for audit if required.

**SIGNATURE OF APPLICANT: (Must be Town Administrator/Manager or Select Board Chair)**

Name: 

Title: Chair



**northwoods**  
**EXCAVATING INC.**  
289 Ulman Road  
Thetford Center, VT 05075

February 1<sup>st</sup>, 2016

Jon MacKinnen  
Town of Strafford  
PO box 27  
Strafford, VT 05072

Dear Jon:

The following is the bid for slope stabilization located at the Old City Falls Bridge

Scope of work to include:

- Import large rip-rap for base and smaller stone for chinking in - \$3,720
- Large Excavator and labor time - \$7,170

The Total Price for the above task is \$ **11,490**

Sincerely,

Zebulon Jenks,  
Superintendent

Accepted by:

\_\_\_\_\_  
Town of Strafford Representative

\_\_\_\_\_  
Date

Sincerley,

Zebulon Jenks,  
Superintendent

Accepted by:

\_\_\_\_\_  
Town of Strafford Representative

\_\_\_\_\_  
Date

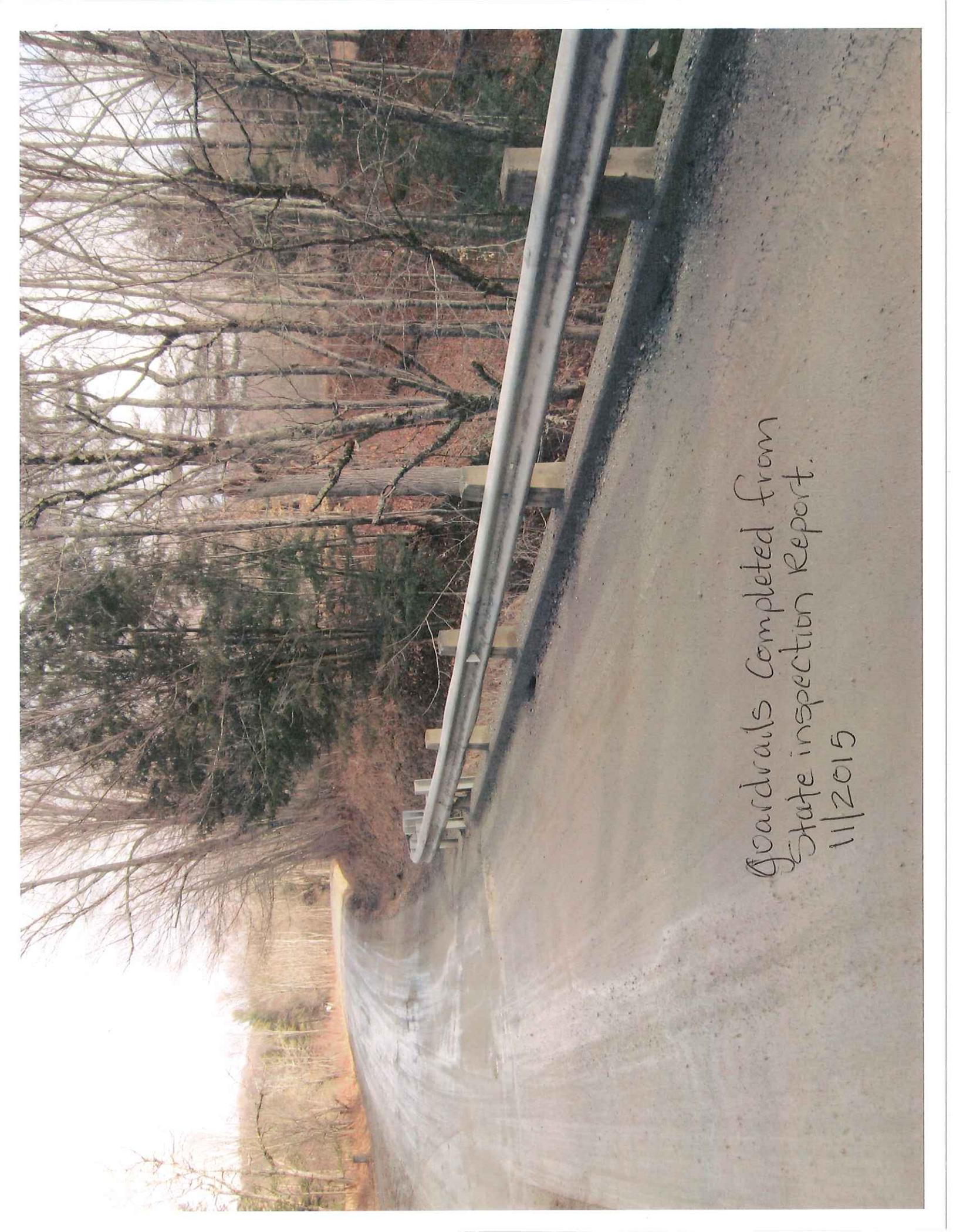




Google earth







Guardrails Completed from  
State inspection Report.  
11/2015

State of Vermont  
Agency of Transportation - Highway Division  
Bureau of Asset Management and Performance - Bridge Inspection  
One National Life Drive  
Montpelier, VT 05633-5001  
[www.aot.state.vt.us](http://www.aot.state.vt.us)

[phone] 802-828-2621  
[fax] 802-828-3566  
[ttd] 800-253-0191

December 3, 2014

Mr. Roderick Maclay, Selectboard Chair  
Town of Strafford  
c/o Ms. Lisa Kendall, Town Clerk  
P.O. Box 27  
Strafford, VT 05072

**RE: Strafford, bridge #27 on TH #6 (Class 3) over Old City Brook**

Dear Mr. Maclay:

The Federal National Bridge Inspection Standards require inspection of all publicly owned bridges over 20 feet in length on a 24 month cycle. A two-member team performs the inspection, with at least one member specially trained for this work. The Agency of Transportation provides this inspection in the interest of public safety and as a service to the municipalities with the cost shared between the Federal government and the State.

The above referenced structure is a rolled beam bridge spanning Old City Brook. During a recent inspection the following problems were noted which are in need of attention.

- The approach's cable rails lie on the ground due to failed timber posts and has caused the bridge rail to sag. There is also a broken out concrete post over the upstream end of abutment 1.
- The upstream embankment at abutment 1 has heavy erosion due to road runoff.

Based on these findings it is recommended that the bridge and approach guardrail be replaced to meet standards. Also new approach guardrail posts be installed and repairs made to the broken out bridge post over abutment 1.

The upstream embankment at abutment 1 should have anti erosion protection installed.



To: Strafford Vermont  
RE: **Strafford, bridge #27 on TH #6 (Class 3) over Old City Brook**  
Date: December 3, 2014  
Page 2

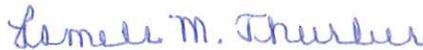
This structure is owned by the town and as such is the responsibility of the town. **Failure to comply with the recommendations may compromise public safety, result in additional damage, and/or substantially reduce the service life of the structure.**

Even though a bridge is recommended for repair due to deterioration, impact damage, or scour by the State, the decision to properly respond to the recommendations is the responsibility of municipal officials. However, it is in the best interest of the municipality to address these recommendations. A failure to address potential bridge hazards may result in tort liability claims.

Please send WRITTEN notification of your intent to comply with, your compliance with, or reasons for non-compliance with these recommendations within 60 days from receipt of this letter. We are required by the Federal Highway Administration to report to them when the recommended posting, closure, and/or safety repairs have been implemented. A response form has been provided for your use.

If you have any questions concerning the matter, please contact your local District Transportation Administrator, DTA Tammy Ellis at 295-8888 or me at 828-0041. A representative from Bridge Inspection would be willing to meet with you at the site to discuss the contents of this letter.

Sincerely,



Pamela M. Thurber, P.E.  
Bridge Inspection and Budget Program Manager

WMH: PMT: JWW  
cc: Tammy Ellis, DTA District #4  
NBIS Inspection Files via JWW  
FHWA Design and Structures Engineer



State of Vermont  
Agency of Transportation - Highway Division  
Bureau of Asset Management and Performance - Bridge Inspection  
One National Life Drive  
Montpelier, VT 05633-5001

COPY

RE: **Strafford, bridge #27 on TH #6 (Class 3) over Old City Brook**

The Selectboard of Strafford Vermont ...

WILL properly replace/repair bridge and approach guardrail and posts to meet standards. Anticipated date of completion of this repair is 10/1/15 (date). \*Strafford WILL notify the State in writing when work is complete.

WILL repair the eroded upstream embankment at abutment 1. Anticipated completion of this work is 10/1/15 (date). \*Strafford WILL notify the State in writing when work is complete.

OTHER \*Reason(s) for non-compliance \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Printed Name and

Signatures:

Town of Strafford

Vermont

Selectboard

DATE:

Roderick Maclay  
Roderick Maclay  
\_\_\_\_\_  
\_\_\_\_\_  
February 3, 2015



**STRUCTURE INSPECTION, INVENTORY and APPRAISAL SHEET**

Vermont Agency of Transportation ~ Structures Section ~ Bridge Management and Inspection Unit

Inspection Report for STRAFFORD

bridge no.: 00027

District: 4

Located on: C3006 over OLD CITY BROOK

approx. 0.1 MI TO JCT W CL3 TH23

Owner: 03 TOWN-OWNED

**CONDITION**

Deck Rating: 7 GOOD  
Superstructure Rating: 7 GOOD  
Substructure Rating: 8 VERY GOOD  
Channel Rating: 7 GOOD  
Culvert Rating: N NOT APPLICABLE  
Federal Str. Number: 100910002709101  
Federal Sufficiency Rating (April 2015): 067.5  
Deficiency Status of Structure (April 2015): ND

**AGE and SERVICE**

Year Built: 1958 Year Reconstructed: 0000  
Service On: 1 HIGHWAY  
Service Under: 5 WATERWAY  
Lanes On the Structure: 02  
Lanes Under the Structure: 00  
Bypass, Detour Length (miles): 08  
ADT: 000200 % Truck ADT: 02  
Year of ADT: 2008

**GEOMETRIC DATA**

Length of Maximum Span (ft): 0082  
Structure Length (ft): 000084  
Lt Curb/Sidewalk Width (ft): 0.3  
Rt Curb/Sidewalk Width (ft): 0.3  
Bridge Rdwy Width Curb-to-Curb (ft): 25.6  
Deck Width Out-to-Out (ft): 26.8  
Appr. Roadway Width (ft): 022  
Skew: 15  
Bridge Median: 0 NO MEDIAN  
Min Vertical Clr Over (ft): 99 FT 99 IN  
Feature Under: FEATURE NOT A HIGHWAY OR RAILROAD  
Min Vertical Underclr (ft): 00 FT 00 IN

**STRUCTURE TYPE and MATERIALS**

Bridge Type: ROLLED BEAM  
Number of Approach Spans: 0000 Number of Main Spans: 001  
Kind of Material and/or Design: 3 STEEL  
Deck Structure Type: 1 CONCRETE CIP  
Type of Wearing Surface: 6 BITUMINOUS  
Type of Membrane: 2 PREFORMED FABRIC  
Deck Protection: 0 NONE

**APPRAISAL \*AS COMPARED TO FEDERAL STANDARDS**

Bridge Railings: 0 DOES NOT MEET CURRENT STANDARD  
Transitions: 0 DOES NOT MEET CURRENT STANDARD  
Approach Guardrail: 0 DOES NOT MEET CURRENT STANDARD  
Approach Guardrail Ends: 0 DOES NOT MEET CURRENT STANDARD  
Structural Evaluation: 4 MEETS MINIMUM TOLERABLE CRITERIA  
Deck Geometry: 5 BETTER THAN MINIMUM TOLERABLE CRITERIA  
Underclearances Vertical and Horizontal: N NOT APPLICABLE  
Waterway Adequacy: 8 SLIGHT CHANCE OF OVERTOPPING ROADWAY  
Approach Roadway Alignment: 8 EQUAL TO DESIRABLE CRITERIA  
Scour Critical Bridges: 8 STABLE FOR SCOUR

**DESIGN VEHICLE, RATING, and POSTING**

Load Rating Method (Inv): 2 ALLOWABLE STRESS (AS)  
Posting Status: A OPEN, NO RESTRICTION  
Bridge Posting: 5 NO POSTING REQUIRED  
Load Posting: 10 NO LOAD POSTING SIGNS ARE NEEDED  
Posted Vehicle: POSTING NOT REQUIRED  
Posted Weight (tons):  
Design Load: 2 H 15

**INSPECTION and CROSS REFERENCE X-Ref. Route:**

Insp. Date: 092014 Insp. Freq. (months) 24 X-Ref. BrNum:

**INSPECTION SUMMARY and NEEDS**

9/17/2014 This structure needs to have new approach and bridge guardrail installed that meets standards, as well as new posts for the approach rail. There is heavy bank erosion on the upstream end of abutment 1 that should have anti erosion protection put in place. JWW/JDM  
7/22/2014 - Guard rail system needs drastic improvement. Lack of adequate rail is a safety concern with steep and abrupt side slopes along with the considerable elevation of the bridge itself. Erosion along the northeastern side slope needs attention. ~ MJ/JS  
07/16/2012 Some means of erosion protection should be added to the upstream banks. The approach rail and posts should be replaced as well as the bridge guardrail. JWW  
09/02/2011 Irene inspection, Heavy erosion upstream that will need filling in. MJK JM  
07/28/2010 - Cable guide rail system should be upgraded. ~ MJ/DS