



# Cover Sheet

Please complete this page ONCE and return with your Grant Category Application(s)

Town/Organization: Dummerston

Primary Contact Person (Responsible for Signing Grant Agreement): Zeke Goodband

Title: Selectboard chair

Address: 1523 Middle Rd. East Dummerston 05346  
Street Address Town Zip

Primary Contact Person Email: townclerk@dummerston.org Phone: (802) 257 - 1496

SAM unique ID #: NET: FJHULLW11F3 Fiscal Year End Month (MM): 06

Town Clerk / Admin email: townclerk@dummerston.org

Road Foreman Name: Lee Chamberlin Road Foreman Email: treasurer@dummerston.org



# Vermont Better Roads Grant Program



## CATEGORY B/C/D

Please complete one application per project you are applying for.

Please check the Category you are applying for:

- B. Correction of a Road Related Erosion Problem and/or Stormwater Mitigation
- C. Correction of a Stream Bank, Lake Shore or Slope Related Problem
- D. Structure/culvert 36" diameter or greater

Municipality: Dummerston

Road Name: Stickney Brook Rd. TH #: 47 Structure # (if applicable): 14

Road Type: Paved or Unpaved (select one) Road Class: 1 2 3 4 (select one)

Please provide a thorough description of the erosion/water quality problem (ex. Roadway has steep slope with no ditch which is causing severe roadway erosion, which outlets into the Lamoille River):

The structure has an opening of 10 sq. ft, which needs to be 33 sq ft.

Has the town completed an MRGP compliant road erosion inventory?

- Yes
- No
- In progress

Project Length (linear feet along roadway): 100 ft.

Number of structures/culverts replaced/repared: \_\_\_\_\_

Average slope of roadway:  0-5%  5-10%  >10%

Provide a VERY detailed map of project location showing start and end points:  Included

Provide a sketch of project location showing distances and project details:  Included



# Vermont Better Roads Grant Program



Please provide the Road Segment ID (RSID) for your project. If several, please list all. In addition to the RSID please indicate what the resulting rating of each segment before construction as well as after construction in accordance with the MRGP.\* (i.e., Fully Meets Standard, Partially Meets, Does Not Meet) For assistance, please contact Better Roads Staff (802)828-4585.

RSID	Hydrologically Connected?		Pre-construction MRGP Conformance			Post-construction MRGP Conformance		
	Yes	No	Fully Meets	Partially Meets	Does Not Meet	Fully Meets	Partially Meets	Does Not Meet
172838	X			X		X		

\*In order to "Fully Meet" the standards the road segment must have proper crown, removal of shoulder berms, proper ditching, proper conveyance and no erosion present at culvert inlets and outlets.



# Vermont Better Roads Grant Program



### Environmental Concerns:

All projects require a review of potential impacts by our environmental team. To expedite the review process, please check the boxes below that describe existing structures/conditions to be replaced/maintained (if any) and the project description that applies (if any).

Existing Structures:	
<input checked="" type="checkbox"/> Steel/Plastic Culvert	<input type="checkbox"/> Concrete Box Culvert
<input type="checkbox"/> Stone Culvert – Take pictures	<input type="checkbox"/> Concrete Bridge
<input type="checkbox"/> Ditch	<input type="checkbox"/> Rolled Beam/Plate Girder Bridge
<input type="checkbox"/> Foundation remains, mill ruins, stone walls, other – Take pictures	<input type="checkbox"/> Stone abutments or piers – Take pictures
<input type="checkbox"/> Buildings within 300 feet of work - Take pictures	
Project Description:	
<input type="checkbox"/> New ditches will be established	<input checked="" type="checkbox"/> All work will be completed from the existing road or shoulder
<input type="checkbox"/> Reestablishing existing ditches only	<input checked="" type="checkbox"/> There will be excavation within 300 feet of a river or stream – Take pictures
<input checked="" type="checkbox"/> The structure is being replaced on existing location/alignment	<input type="checkbox"/> Road reclaiming, reconstruction, or widening
<input type="checkbox"/> Excavation within a floodplain – Take pictures	<input type="checkbox"/> Temporary off-road access is required
<input checked="" type="checkbox"/> Tree cutting/clearing – Take pictures	<input type="checkbox"/> The roadway will be realigned

Please describe the project and how it will create a positive water quality benefit (ex. Reshape 500' of ditch and line with 12 inch minus stone, to prevent sediment from entering the Lamoille River at the bottom of the hill):

*Replacing a boiler tube with the proper-sized squashed pipe. We will use stackable riprap on outlet and 12" minus.*

Please list any professionals or partners that assisted with planning this project (ANR River Management Engineer, Army Corps of Engineers, VTrans staff, Basin Planner, RPC staff, etc.):

*ANR - Scott Jensen*

Is the project located in the town "Right of Way? (select one)  Yes  No  Both

Please be aware, Municipalities are required to have an Agreement for Entry & Liability Release for any impacted properties (prior to the start of construction.)



# Vermont Better Roads Grant Program



## Budget:

Please attach a project budget and confirm below that is attached:

Project budget IS attached

Are you applying to other grant programs to help fund this project? If so, what programs? Please note that Better Roads requires a 20% local match and Better Roads funding may not be used as match for other state or federally funded programs. NO

<b>Requested Grant Amount:</b>	\$ <u>40,176.00</u>
+	
<b>Local Match:</b>	\$ <u>10,044.00</u>
=	
<b>Total Project Cost:</b>	\$ <u>50,220.00</u>

Requested Grant Amount Max:  
 \$20,000 Category B  
 \$40,000 Category C  
 \$60,000 Category D

See page 6 for more information on calculating match

Estimated Completion Date: 10/15/2024

### REQUIRED ATTACHMENTS:

Please use the documentation checklist below to ensure that all of the relevant items regarding your application have been included. It is preferred that your application is a single PDF file.

- Grant application cover sheet
- Grant application form, including chart with RSID and MRGP compliance before and after project completion
- Itemized Cost estimate for labor, equipment, and materials (see enclosed Cost Estimate Worksheet). If applicable, please break down funding by source (i.e. different grant sources).
- Detailed Project Location Map
- Sketch of proposed project and erosion control measures or other management practices, including distances in feet
  - o Also show approximate location of town/other right-of-way and/or property lines and limits of work
- Photos must be color and clear to see.
  - o Please make sure there are enough photos to get a good idea of the project area
- 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:

Name: *Felice Goodband* Title: *Selectboard Chair*

**MUST BE TOWN ADMINISTRATOR/MANAGER OR SELECT BOARD CHAIR**



# Vermont Better Roads Grant Program



## Cost Estimate Worksheet

Town and Road Name: Dummerston Stickney Brook Road

Project Name: Stickney Brook Rd. Old Boiler Tube

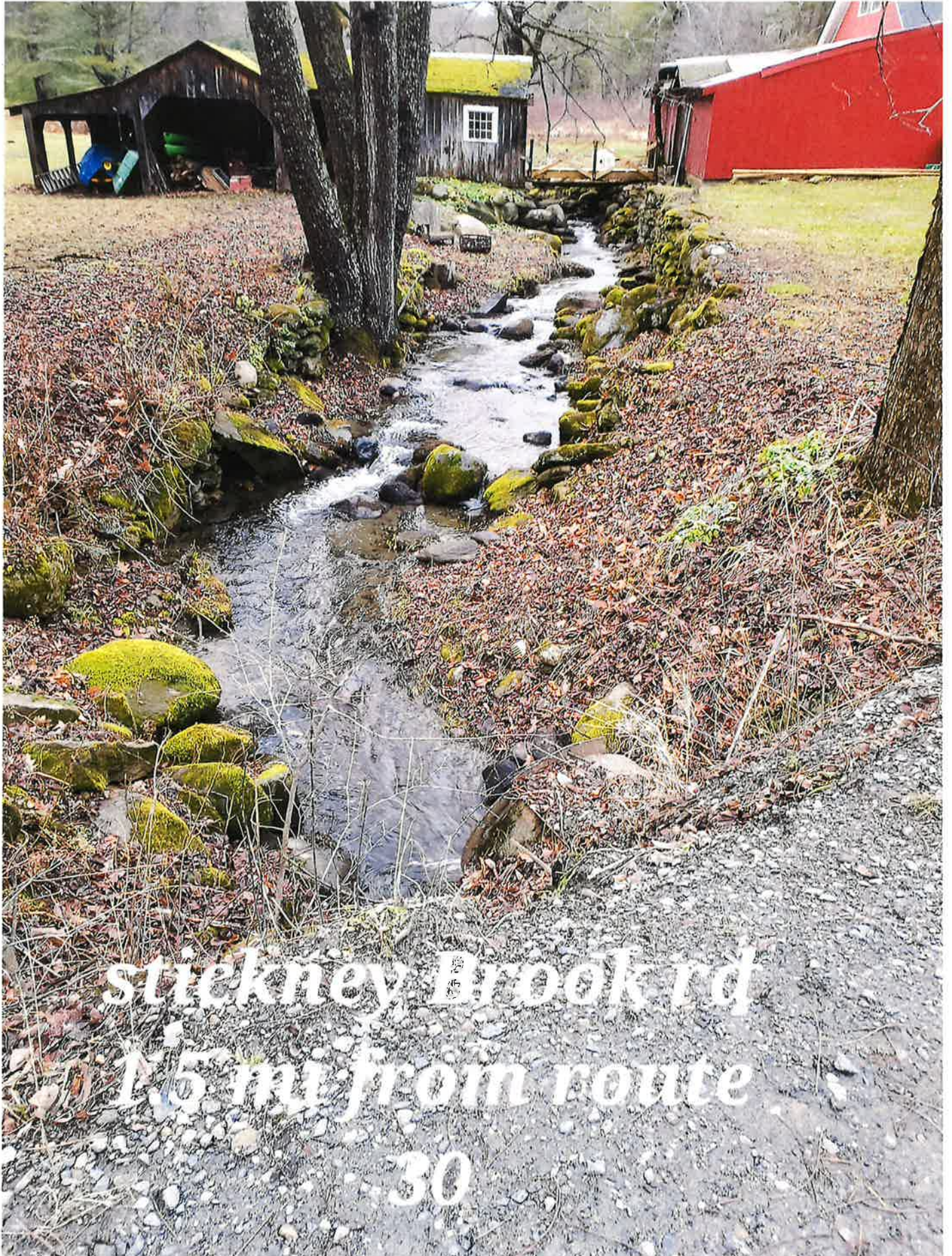
Labor	Rate	# Hours	Total (Rate x Hours)
<u>128 hours</u>	<u>\$30</u>	<u>128</u>	<u>\$ 3840.</u>

Equipment	Rate	# Hours	Total (Rate x Hours)
<u>6-Wheel Dump Trucks</u>	<u>\$37</u>	<u>100</u>	<u>\$3700</u>
<u>Backhoe</u>	<u>\$37</u>	<u>20</u>	<u>740</u>

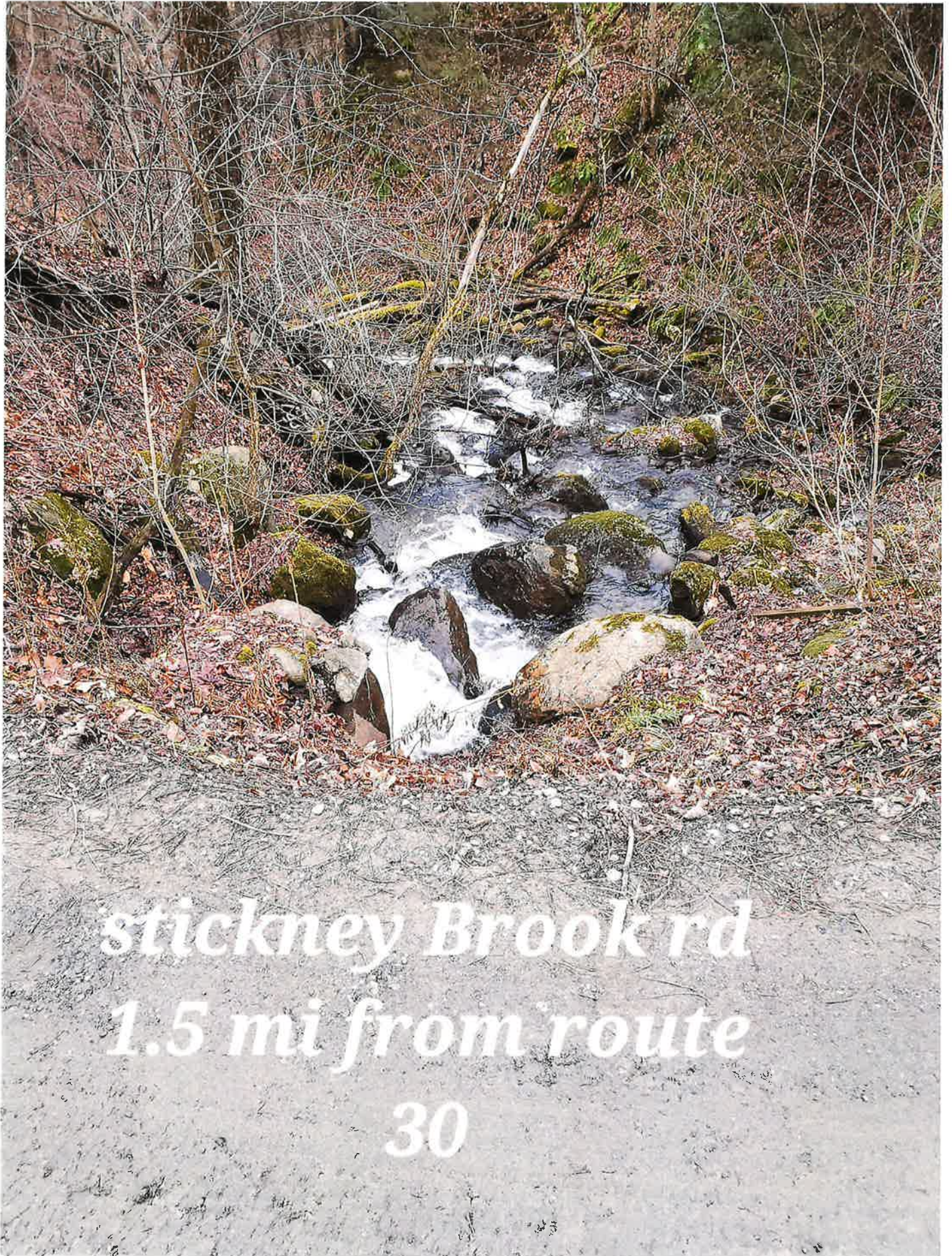
Materials	Rate	Amount	Total (Rate x Amount)
<u>Gravel</u>	<u>\$18</u>	<u>100 cu</u>	<u>\$1800</u>
<u>mulch</u>	<u>\$4 per bale</u>	<u>10 bales</u>	<u>40</u>
<u>Seed</u>	<u>\$100</u>		<u>100</u>
<u>40' of 8" pipe</u>		<u>15,000</u>	<u>15,000</u>

Miscellaneous	Rate	Amount	Total (Rate x Amount)
<u>Contractor will supply excavator, riprap, dewatering &amp; roller</u>		<u>\$25,000</u>	<u>\$25,000</u>

Labor Total: \$ 4440  
 Equipment Total: \$ 4440  
 Materials Total: \$16,940  
 Miscellaneous Total: \$25,000  
**Grand Total: 50,220**  
**Match: 10,044**



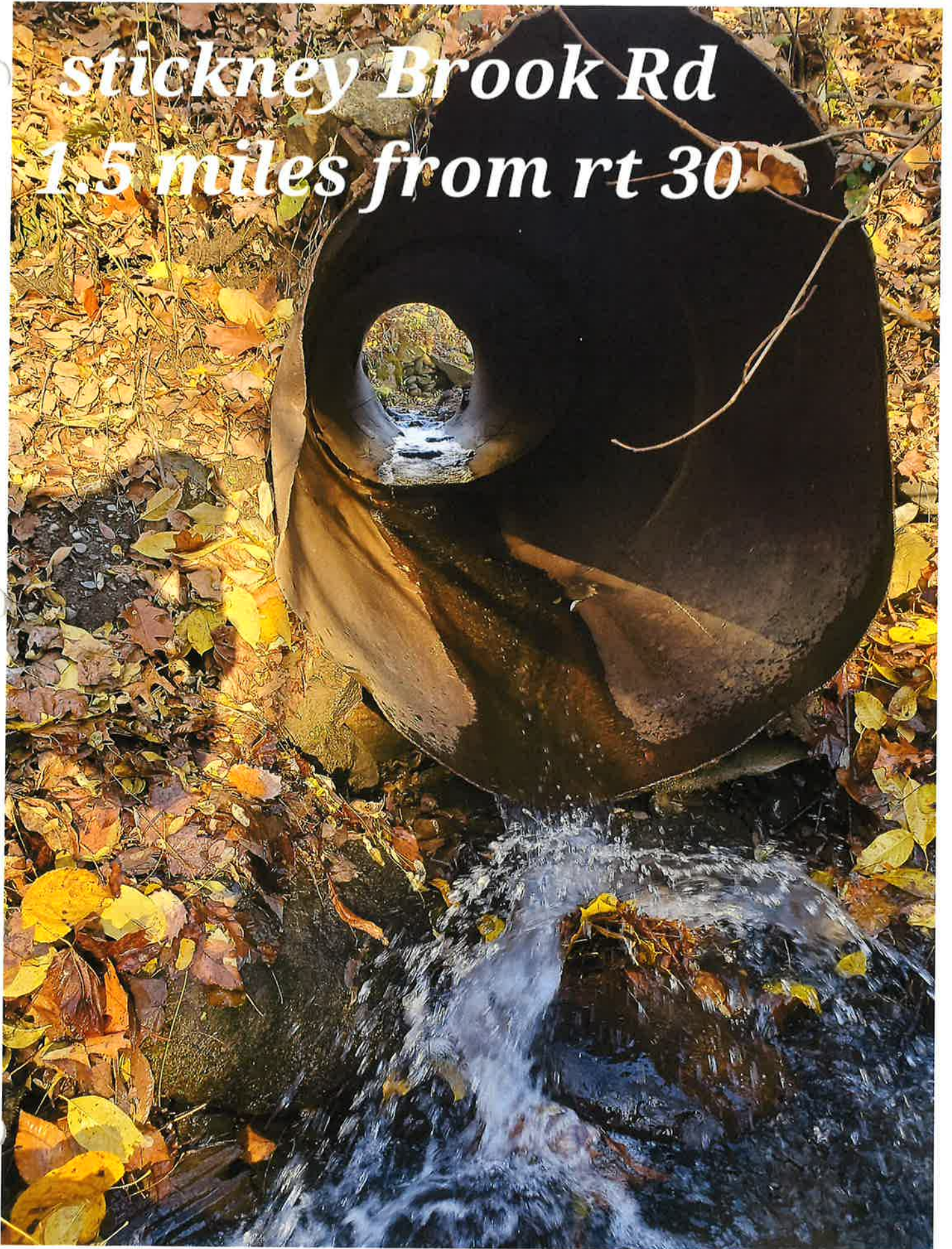
*stieknev Brook rd  
1.5 mi from route  
30*

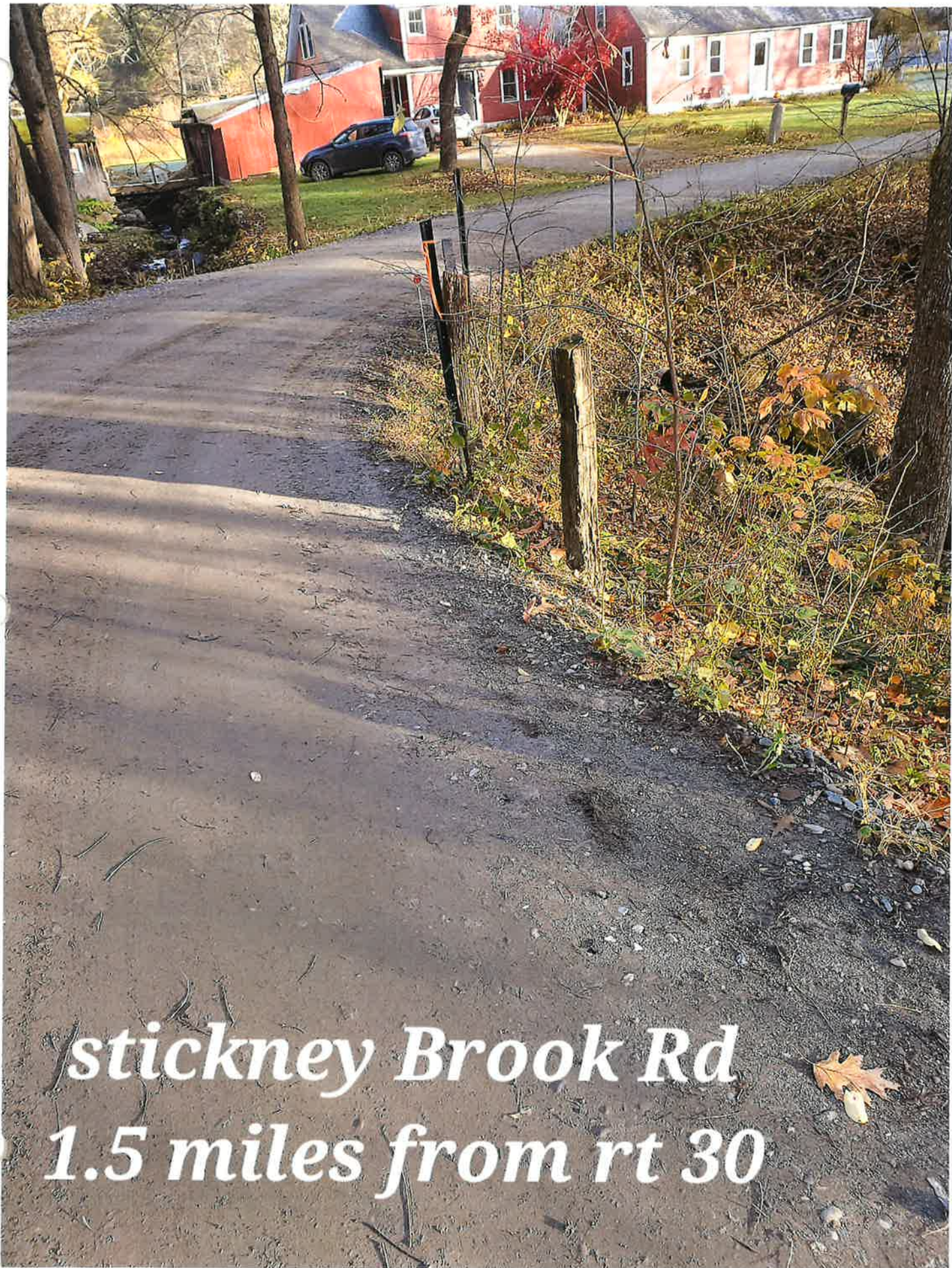


*stickney Brook rd*  
*1.5 mi from route*  
*30*



*stickney Brook Rd  
1.5 miles from rt 30*





*stickney Brook Rd*  
*1.5 miles from rt 30*



*stickney Brook Rd*  
*1.5 miles from rt 30*

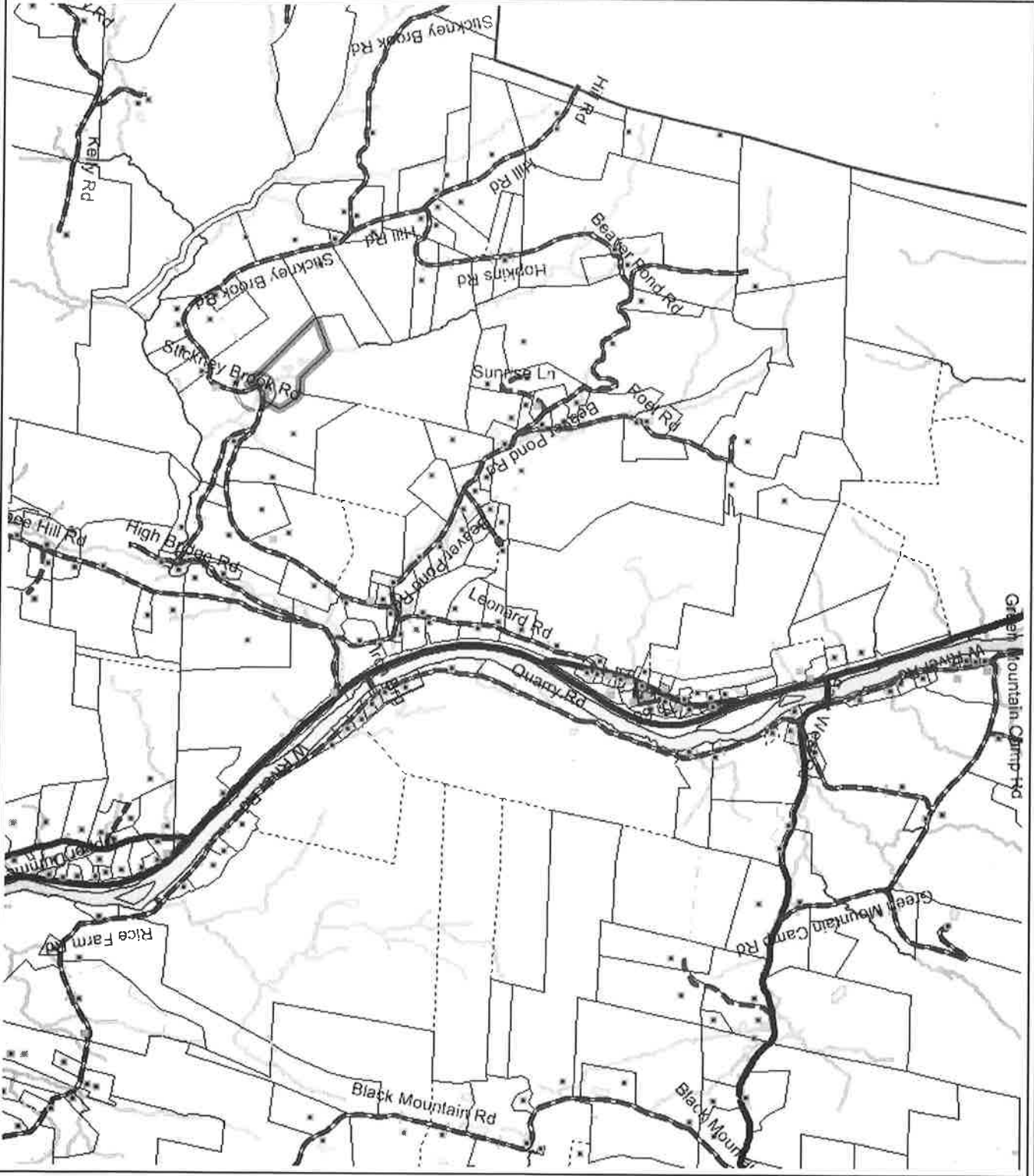
Town of  
Dummerston



000565.1B0  
744 Stickney Brook Rd  
Dunn David  
744 Stickney Brook Rd  
Dummerston, VT 05301  
20.4 acres Grand List  
18.46 acres GIS

Map Features:  
Parcel Lines  
Building Locations  
Road Centerlines  
Streams & Ponds

The Town of Dummerston and CTI assume no liability as to the sufficiency, accuracy, or the user's interpretation of the data delineated herein. Current to April 1, 2020  
This map is for assessment purposes only. It is not to be used for description, conveyance, or determination of legal title.



Map Scale 1:28,500  
1 inch = 2380 feet



Map Printed on  
December 2022



# Sheet 1

## BRIDGE AND STRUCTURES INVENTORY

all culverts over 3'

Replacement

	ROAD NAME	STRUCTURE	SIZE	BUILT	CHECKED	REASON			
	1 East West Rd.	7	8'7" by 78'	1996	excellent				
	2 East West Rd.	b-10	21' by 114'		fair	new membrane 2008			
	3 East West Rd.	b-18	26' by 36'	1935	fair				
	4 East West Rd.	44	72" by 84'	2000	excellent				
	5 East West Rd.	b-51	6' by 48'	1939	fair				
	6 Park Laughton Rd.	8	12' 42'	2016	excellent	multi plate arch A.S. Clark	\$140,000.00		
2	7 Park Laughton Rd.	b-11	2-5' by 30'		fair	boiler tubes flooded before	\$220,000.00	2026	
	8 Miller Rd.	b-15	9' by 26'		good				
2a	9 Greenhoe Rd.	b-5	6' by 40'		good	small floods with 4 inches rain	220,000	grant	
	10 Bunker Rd.	b-6	14'6" by 100'		good				
	11 Bunker Rd.	19	48" by 40'		good				
	12 Middle Rd.	b-17	6' by 50'		good				
	13 Middle Rd.	b-22	6' by 50'		good				
	14 Middle Rd.	b-24	6' by 40'		good				
	15 Middle Rd.	b-26	6' by 60'		good				
	16 Canoe Brook Rd.	b-8	6' by 40'	2004	excellent				
	17 Waterman Rd.	1	60"	2018	excellent	38' long one piece poly coated	\$9,000.00		
	18 Waterman Rd.	b-2	10' by 90'	2001	excellent				
	19 Tucker Reed Rd.	b-9	24'by16'	2016	excellent	Cement A.S. Clark	\$160,000.00		
1	20 Leonard Rd.		5' by 30"		poor	boiler tube, rust	\$150,000.00	2024	
	21 School House Rd.	5	48' by 100'		good				
7	22 Kipling Rd.	b-1	6' by 50'		good	boiler tube	\$150,000.00	2040	
	23 Dutton Farm Rd.	1	12'by62' arch	2013	excellent	multi plate arch town	\$132,000.00		
	24 Rice Farm Rd.	13	6' by 50'		excellent				
8	25 Rice Farm Rd.	22	8' by 75'		good	boiler tube	\$100,000.00	2043	
6	26 Beaver Pond Rd.		5' by 20'		good	boiler tube	\$150,000.00	2038	
5	27 Beaver Pond Rd.	8	5' by 20'		good	boiler tube	\$160,000.00	2035	
	28 Bear Hill Rd.	b-7	16' by 31'	2000	excellent				
	29 Stickney Brook Rd.	b-3	10' by 26'		good	needs work on wing wall			
1a	30 Stickney Brook Rd.	14	43" by 30'		poor	Too small,short and bent,boiler tu	\$60,000.00		
	31 Stickney Brook Rd.	26	8' by 50'	2011	excellent	multi plate arch town	\$122,000.00		
	32 Stickney Brook Rd.	46	4' by 40'		good				
	33 Stickney Brook Rd.	b-53	12' by 30'	2019	excellent	bridge Evans const.	\$147,000.00	2019	
9	34 Sunset Lake Rd.	b-14	6' by 30'		good			2048	
3	35 Johnson's Curve Rd.	3	5' by 7' by 110'		poor		\$500,000.00	2028	
	36 High Bridge Rd.	b-1	11' by 32'	2008	excellent	new deck			
	37 Covered Bridge			1997	fair	new deck 2009 new wing walls 2012			
	38 Green Iron Bridge				excellent	Rebuilt 2010- 2011			
4	39 Camp Arden Rd.	b-15	5' by 60'		fair	boiler tube,flooded before	\$200,000.00	2032	
	40 Green Mt. Camp Rd.	6	6' by 80'	2002	excellent				
	41 Quarry Rd.	2	18' by 35' ,arch	2015	excellent	multi plate arch A.S.Clark	\$130,000.00		
10	42 Ryan Rd.	b1	8' by 40'		good		\$250,000.00	2050	
	Camp arden Rd		10' by 30'		excellent	belco	\$97,000.00	2022	
	Hague rd		8 by 30'			check with anr	60,000	2030	



# Vermont Better Roads Grant Program



## River Management Engineer Support Letter

I am providing this letter of support to the Town/City/Village of Dummerston for their Better Roads grant application on Stickney Brook Rd/ TH-47 which will have an impact on Tributary to Stickney Brook  
Mile Marker, Road Name/TH Number  
Name of River/Stream

Stream Alteration Permit Required for this project:  Yes  No

Upon review of the site, I have determined that the proposed project is eligible for a Stream Alteration Permit. Additionally, if this project is constructed according to the recommendations described below (see Comments), the following stream equilibrium and connectivity benefits will be achieved:

- Restores or enhances floodplain/access to floodplain
- Restores or enhances natural channel dimensions
- Establishes tree/shrub buffer
- Restores habitat (including aquatic organism passage)
- No additional benefits
- Further restricts or impacts the stream

Thank you for your consideration,

Signature

**Comments:** Replacement of this undersized culvert will minimize erosion of the road and outlet of the structure and improve the flood resiliency of the road. This will improve the water quality of Stickney Brook and lower road maintenance costs. After site visit with Fisheries, AOP is not required for this project. This project is supported by the River Management Program.

*By Chris*  
**HYDRAULICS UNIT** *Derby*

**TO:** Floyd Roberts, D.T.A., District 2

**FROM:** Dave Willey, Hydraulics Project Supervisor  
Martha Price, Civil Engineer

**DATE:** September 13, 2004

**SUBJECT:** Dummerston TH 47  
Boiler plate culvert 1.5 miles from Rt 30

*New pipe*  
*95" x 67"*

We have completed our preliminary hydraulic study for the above referenced site, and offer the following information for your use:

**Hydrology**

This site has a hilly to mountainous drainage basin. It is mostly forested with some small clearings and wetlands. The total contributing drainage area is about 380 acres. There is an overall length of 9,580' from the divide to the site, with a 710' drop in elevation, giving an average slope of 7.4%. Using several hydrologic methods, we determined the following design flow rates:

<u>Recurrence Interval in Years</u>	<u>Flow Rate in Cubic Feet per Second (CFS)</u>
Q2.33	40
Q10	105
Q25	140 - Town Highway Design Flow
Q50	170
Q100	200 - Check flow

**Existing Structure**

The existing boiler plate structure has a span of 3'-7" and a rise of 4'-4", providing a waterway opening of about 10 sq. ft. Our calculations show this structure to be hydraulically inadequate. Headwater to depth ratios exceed the state standards, and the roadway is overtopped below the design Q25. The alignment of this structure is good.

**Recommendations**

In sizing a new structure we attempted to select structures that meet the hydraulic standards, fit the natural channel width, the roadway grade and other site conditions. Based on these considerations the following would best fit the site:

*Minimize pipe type* *8'7"* *45* *67* *31'*  
*95* *32'1"*

- A corrugated metal pipe arch with a span of 7'-8" and a rise of 5'-5" which has a waterway opening of 33.0 sq. ft. would be hydraulically adequate. This structure would result in headwater depths at Q25 = 4.1' and Q100 = 5.3'.
- A concrete box with an 8'-0" wide by 5'-0" high inside opening, with 1 ft high bed retention sills (baffles) in the bottom. That will result in an 8'-0" wide by 4'-0" high waterway opening, or 32 sq. ft. of waterway area. The box invert should be buried 1', so the top of the baffles will be even with the channel bottom.

Baffles should be spaced no more than 8' apart throughout the structure with one baffle placed at the inlet and one at the outlet. This structure will result in a headwater depth at Q25 = 3.6' and at Q100 = 4.6'.

- Other structures with a minimum span of 8' and at least 32 sq. ft. of waterway area that fits the site could be considered

### **General Comments**

If a new pipe arch is installed we recommend it have a minimum of three feet of cover and a maximum cover to meet specific structure specifications. Manufacturers can be contacted for certain product specifications. All structures must be able to handle HS-25 loading. Either half height or full height concrete headwalls should be installed at the inlet and outlet. The headwalls should extend at least four feet below the channel bottom or to ledge to prevent undermining of the structure.

If a new box is installed, we recommend it have full headwalls at the inlet and outlet. The headwalls should extend at least four feet below the channel bottom, or to ledge, to act as cutoff walls and prevent undermining.

It is always desirable for any new structure to have flared wingwalls at the inlet and outlet, to smoothly transition flow through the structure, and to protect the structure and roadway approaches from erosion. The wingwalls should match into the channel banks. Any new structure should be properly aligned with the channel, and constructed on a grade that matches the channel.

Stone Fill, Type II should be used to protect any disturbed channel banks or roadway slopes at the structure's inlet and outlet, up to a height of at least one-foot above the top of the opening. The stone fill should not constrict the channel or structure opening.

The Agency of Natural Resources (ANR) may have additional concerns regarding replacement of this structure, or any channel work. The Stream Alteration Engineer should be contacted with respect to those concerns. If ANR requires the invert of the pipe to be buried to provide a natural bottom, the size of the structure will have to be larger to provide the required waterway area.

Please keep in mind that while a site visit was made, these recommendations were made without the benefit of a survey and are based on limited information. The final decision regarding the replacement of this structure should take into consideration matching the natural channel conditions, the roadway grade, environmental concerns, safety, and other requirements of the site.

Please contact us if you have any questions or if we may be of further assistance.

MMP

cc: Fred Nicholson, A.N.R. Stream Alteration Engineer  
J.B. McCarthy, VTRANS, Structures Engineer  
Central Files via MP  
Gary Schelley, Maintenance Project Administrator  
Hydraulics Project File via MJT  
Hydraulics Chrono File