

Act 64 Language regarding the MRGP

(2)(A) The Secretary shall issue on or before December 31, 2017, a general permit for discharges of regulated stormwater from municipal roads

(i) Establish a schedule for implementation of the general permit by each municipality in the State. Under the schedule, the Secretary shall establish:

(I) the date by which each municipality shall apply for coverage under the municipal roads general permit;

(II) the date by which each municipality shall inventory necessary stormwater management projects on municipal roads;

(III) the date by which each municipality shall establish a plan for implementation of stormwater improvements that prioritizes Stormwater improvements according to criteria established by the Secretary under the general permit; and

(IV) the date by which each municipality shall implement stormwater improvements of municipal roads according to a municipal implementation plan.

Hydrologically-connected Road Segments

The screenshot displays the Vermont Natural Resources Atlas web application. The browser address bar shows the URL <http://enr.vermont.gov/maps/nr-atlas>. The application interface includes a navigation menu on the left with the following items: About Us, Planning and Permitting, Maps and Mapping, Natural Resources Atlas, Web Maps, GIS Data, Downloadable Maps, You and the Environment, and Contact Us. The main content area features a map titled "Natural Resources Atlas" by the Vermont Agency of Natural Resources. The map shows a network of roads, with several segments highlighted in purple to indicate hydrological connectivity. Labeled roads include Tamarack Brook, Keeler Brook, Tucker Brook, and Wolcott Pond Brook. Other features include Wolcott Pond, Currier Brook, and various other smaller brooks and ponds. The map includes a "Quick Tools..." button, a scale bar (0 to 0.6 km), and a copyright notice for 2010 DigitalGlobe. The Windows taskbar at the bottom shows the system time as 3:46 PM on 8/25/2016.

Hydrologically-connected roads

Connected Criteria:

- Muni roads within 100' laterally of a state water
- Muni road that bisects (crosses) a state water

Waters of the state include:

- Perennial streams
- Intermittent streams
- Wetlands
- Lakes and Ponds

MRGP- Components

Inventory



Prioritize

Draft Inventory Planning spreadsheet.xlsx - Excel										
Reason for Condition- also include recent flooding/damage here										
1	Town Names									
2	Initial Inventory data (2018) and findings, next inventory due (2021)									
3	Connected to	Road Type	Segment slope%	Condition	Reason for Condition- also include re	Remediation plan details for 2021-2023	Planned Action (only fill in	Actual implementation specific	Date Completed	2020
4	VT-001	Paved-ditched	9	Partially Meets	Gullied ditch, culvert condition	2017	500'x14, 1 culvert header	grass ditch, replaced culvert	2017	Fully Meets
5	VT-002	Gravel-ditched	10	Does Not Meet	steep ditch slope, no std	2019	250' std	300' std	2017	Fully Meets
6	VT-003	Class 4	13	Does Not Meet	gully erosion	2018	1200' gully restoration	1350' gully restoration	2018	Fully Meets
7	VT-004	Paved-ditched	5	Does Not Meet	no ditch	2018	300' gsd	110' gsd, install 2-18" culverts	2019	Fully Meets
8	VT-005	Paved-ditched	9	Does Not Meet	no ditch stone	2017	800' std	800' std, 3 turnouts	2018	Fully Meets
9	VT-006	Gravel-ditched	4	Partially Meets	no crown, undersized culvert	2020	crown 32", install 18" culvert	crown 32", install 4-18" culvert	2020	Fully Meets
10	VT-007	Gravel-ditched	12	Partially Meets	2 undersized culverts	2020	install 2-18" culverts	install 2-18" culverts	2020	Fully Meets
11	VT-008	Gravel-ditched	0%	Partially Meets	bare ditches	2023	hydro-seed 400'	install 18" culvert		
12	VT-009	Gravel-ditched	8	Partially Meets	undersize and convergence culvert	2023	install 3' diameter culvert	install 4 water bars		
13	VT-010	Gravel-ditched	3	Partially Meets	no crown, no ditch	2021	crown 32", install 600' gsd			
14	VT-011	Class 4	5	Partially Meets	undersized drainage culvert	2021	install 18" culvert			
15	VT-012	Class 4	7	Partially Meets	gully erosion	2021	install 4 water bars			
16	VT-013	Added segment Gravel-ditched	7	Does Not Meet	drive culvert lacking and erosion	2022	install 4-15" drive culverts			
17	VT-014	Gravel-ditched	2	Does Not Meet	drive culvert lacking and erosion	2022	install 6-15" drive culverts			
18	VT-015	Paved-ditched	1	Does Not Meet	no veg ditch	2022	install 400' of gsd			
19	VT-016	Paved-ditched	1	Does Not Meet	no crown, bare ditch	2023	hydro-seed 656' of ditch			
20	VT-017	Gravel-ditched	4	Does Not Meet	culvert outlet erosion	2023	install 5 culvert stone aprons			
21	VT-018	Gravel-ditched	6	Does Not Meet	culvert outlet erosion	2021	install 4 culvert stone aprons			
22	VT-019	Gravel-ditched	9	Does Not Meet	culvert outlet erosion	2022	install 2 culvert plunge pools			
23	VT-020	Class 4	10	Partially Meets	gully erosion on travel lane	2024-2028 permit cycle				
24	VT-021	Class 4	15	Partially Meets	gully erosion around culverts	2024-2028 permit cycle				
25	VT-022	Paved-ditched	17	Partially Meets	high shoulder	2024-2028 permit cycle				
26	VT-023	Paved-ditched	18	Partially Meets	high shoulder	2024-2028 permit cycle				
27	VT-024	Class 4	12	Does Not Meet	culvert gully erosion	2024-2028 permit cycle				
28	VT-025	Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 permit cycle				
29	VT-026	Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 permit cycle				
30	VT-027	Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 permit cycle				
31	VT-028	Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 permit cycle				
32	VT-029	Added segment Gravel-ditched	3	Partially Meets	drive culvert lacking and erosion	2024-2028 permit cycle				
33	VT-030	Added segment Gravel-ditched	17	Partially Meets	drive culvert lacking and erosion	2024-2028 permit cycle				

Implement



Road Inventory and Evaluation Form A
PAVED ROADS WITH OPEN DITCHES
GRAVEL/OPEN (DITCHED) NON-CLASS 4 ROADS

1 road segment = 100 meters = 328 feet
 Both sides of road = 200 meters = 656 feet
 Sheet Flow <1" erosion depth
 Rill 1"-11" erosion depth
 Gully 12"+ erosion depth

Name: _____ Date: _____

Road Segment Name, Town Highway Number & Segment ID Number:	ANR Atlas Slope:	Field Determined Slope:	Road Type:
			<input type="checkbox"/> Paved <input type="checkbox"/> Gravel

1. ROADWAY CROWN/TRAVEL LANE: (N/A for Paved) What percentage of the segment is properly crowned (¼" to ½" per foot), in-sloped, or out-sloped? Note if erosion is present due to poor road surface material.			Erosion Type Present <input type="checkbox"/> Rill <input type="checkbox"/> Gully
<input type="checkbox"/> 0%-49% (0' - 163') Does Not Meet	<input type="checkbox"/> 50%-89% (164' - 294') Partially Meets	<input type="checkbox"/> 90%-100% (295' - 328') Fully Meets	
2. GRADER BERM/WINDOW: What percentage of the segment (both sides of road, 200m, 656') is the grader berm/window removed? (N/A for paved roads)			Erosion Type Present <input type="checkbox"/> Rill <input type="checkbox"/> Gully
<input type="checkbox"/> 0%-49% (0' - 327') Does Not Meet	<input type="checkbox"/> 50%-89% (328' - 589') Partially Meets	<input type="checkbox"/> 90%-100% (590' - 656') Fully Meets	
3. ROAD DRAINAGE: What percentage of the segment (both sides of road, 200m, 656') is the allowed to shed in a distributed manner to a vegetated or forested filter area (shoulder lower than travel lane) or drainage ditch stabilized appropriately for the slope range below?			Erosion Type Present <input type="checkbox"/> Rill <input type="checkbox"/> Gully
<ul style="list-style-type: none"> <5% slope: stabilized with vegetation, stone-lined, or check dams ≥5% to <8% slope: stabilized with stone-lined ditch or combination of grass lined ditch with check dams or grass-lined ditch if installed with disconnection practices such as turnouts and cross culverts ≥8% slope: stone-lined ditch required 			
<input type="checkbox"/> 0%-49% (0' - 327') Does Not Meet	<input type="checkbox"/> 50%-89% (328' - 589') Partially Meets	<input type="checkbox"/> 90%-100% (590' - 656') Fully Meets	
4. CONVEYANCE AREA/TURNOUT: Do drainage outlets/conveyance areas meet the standard of being turned out, shed in a distributed manner down the bank (shedding water), and/or stabilized with vegetation (<5% slope) or stone (≥5% slope)?			Erosion Type Present <input type="checkbox"/> Rill <input type="checkbox"/> Gully
<input type="checkbox"/> One or more areas does not meet standard.		<input type="checkbox"/> All areas meet standard.	

5. & 6. DRIVEWAY & DRAINAGE CULVERTS				
A. Type of culvert?	B. Is erosion present?	C. Where in the culvert cross section is erosion present and is it rill or gully erosion? SEE CULVERT CROSS SECTION DIAGRAM		
		C1. Failing header/end treatment?	C2. Outlet scour or perched culvert?	C3. Undersized/missing structure/poor condition?
<input type="checkbox"/> Driveway <input type="checkbox"/> Drainage	<input type="checkbox"/> No (Fully Meets) <input type="checkbox"/> Yes (complete C)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)
<input type="checkbox"/> Driveway <input type="checkbox"/> Drainage	<input type="checkbox"/> No (Fully Meets) <input type="checkbox"/> Yes (complete C)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)
<input type="checkbox"/> Driveway <input type="checkbox"/> Drainage	<input type="checkbox"/> No (Fully Meets) <input type="checkbox"/> Yes (complete C)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)
<input type="checkbox"/> Driveway <input type="checkbox"/> Drainage	<input type="checkbox"/> No (Fully Meets) <input type="checkbox"/> Yes (complete C)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)	<input type="checkbox"/> Rill (Partially Meets) <input type="checkbox"/> Gully (Does Not Meet)

(Optional) IS OTHER RILL OR GULLY EROSION PRESENT?	Check if Present in Segment and Note Linear Feet (LF)
<input type="checkbox"/> River-road embankment erosion	<input type="checkbox"/> Historic stone walls, LF: _____

Implementation Prioritization

- All **connected** roads brought up to MRGP standards no later than 2038
- Towns, working in coordination with RPCs and DEC, can identify implementation schedule*
- *All **connected** roads *Not Meeting* standards on slopes >10% will have to be brought up to standards by 2025



MRGP- Town Example

Town A. has 52 total road miles (VT average)

- 26 road miles are **hydrologically-connected** road segments
- 26 miles not considered **connected** (no BMP work needed)
- 13 **connected** road miles currently fully meet MRGP standards (maintenance of BMPs only)
- 13 remaining **connected** miles- required to be brought up to MRGP standards before 2038

13 miles/18 years= **0.72 road miles addressed per year minimum**

(this number may change from year to year as segment compliance status changes)

MRGP Principles

First- disconnect road
Stormwater whenever
possible, starting at the top
of the road watershed

Second- Infiltrate
stormwater

Third- Stabilize conveyances
and turn out ditches



Implementation “Triggers”

Required baseline standards- no matter what existing conditions are:

- Road grading/crowning
- Grass and stone-lined ditching or dispersed flow (based on slope)
- Removal of grader berm/lowering of shoulders
- Stable turnouts/conveyances

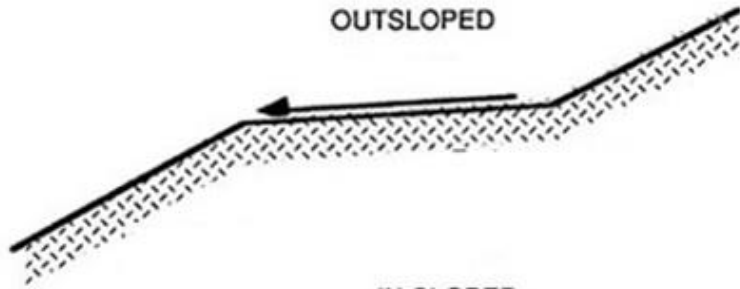
Only required when moderate to significant erosion present:

- 18” drainage culvert minimum
- 15” drive culvert
- Culvert headwalls/headers
- Culvert outlet stabilization
- Class 4 roads- gully erosion present
- Catch basin outfall erosion

Required Baseline Standard

Road crowning

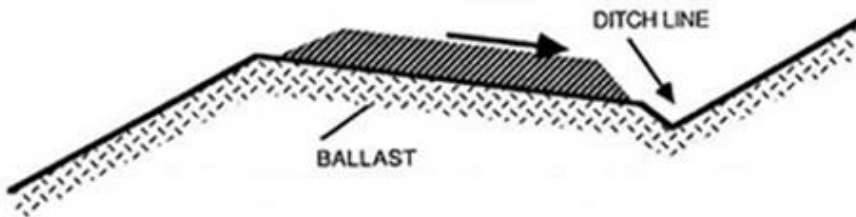
OUTSLOPED



IN SLOPED

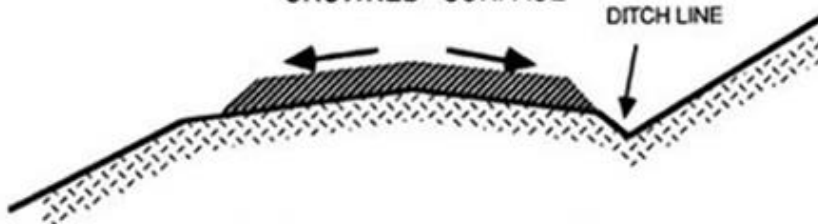
DITCH LINE

BALLAST

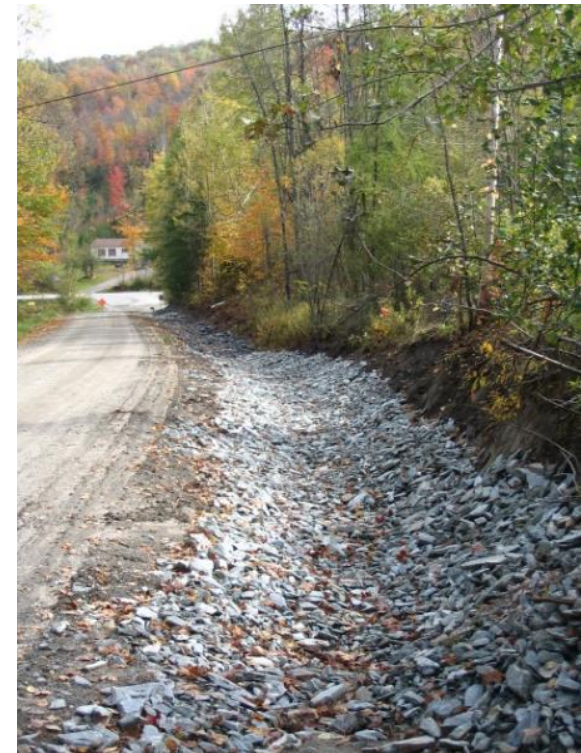


CROWNED SURFACE

DITCH LINE



Required Baseline Standard- grass and stone-lined drainage ditches/distributed flow



Drainage Ditch MRGP Standards:

Road Drainages	Paved	Paved/Ditched	Gravel (not Class IV)	Class IV
Sheet flow (no drainage ditch) Can be substituted for grass or stone-lined ditch. Road embankment lower than road surface (no back slope)	N/A	<ul style="list-style-type: none"> Distributed flow from roadway/travel lane to grass or forested area 	Sheet flow from roadway/travel lane to grass or forested area	-
Drainage ditch: $0\% \leq \text{Slope} < 5\%$	N/A	<ul style="list-style-type: none"> Grass-lined ditch (no bare soil) BMPs that disconnect water out of road drainage network (cross culverts, turnouts or sheet flow etc.) 	<ul style="list-style-type: none"> Grass-lined ditch (no bare soil) BMPs that disconnect water out of road drainage network (cross culverts, turnouts or sheet flow etc.) 	-
Drainage ditch: $5\% \leq \text{Slope} < 8\%$	N/A	<ul style="list-style-type: none"> Stone-lined ditch 8" minus minimum stone recommended and/or Stone-check dams and/or BMPs that disconnect water out of road drainage network (cross culverts, turnouts or sheet flow etc.) Consider undercutting ditch to install stone fill such that material can be removed without removing the stone. 	<ul style="list-style-type: none"> Stone-lined ditch 8" minus minimum stone recommended and/or Stone-check dams and/or BMPs that disconnect water out of road drainage network (cross culverts, turnouts or sheet flow etc.) Consider undercutting ditch to install stone fill such that material can be removed without removing the stone. 	-
Drainage ditches: $\text{Slope} \geq 8\%$	N/A	<ul style="list-style-type: none"> Stone-lined ditch- 12" minus recommended Consider undercutting ditch to install stone fill such that material can be removed without removing the stone. 	<ul style="list-style-type: none"> Stone-lined ditch- 12" minus recommended Consider undercutting ditch to install stone fill such that material can be removed without removing the stone. 	-

Required Baseline Standard-stable turnouts and conveyances



Required Baseline Standard- removal of grader berm



Remove berms to allow distributed flow



Distributed flow instead of a ditch



Erosion from lack of culvert headwall/header



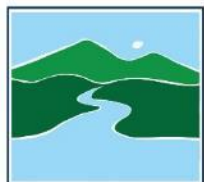
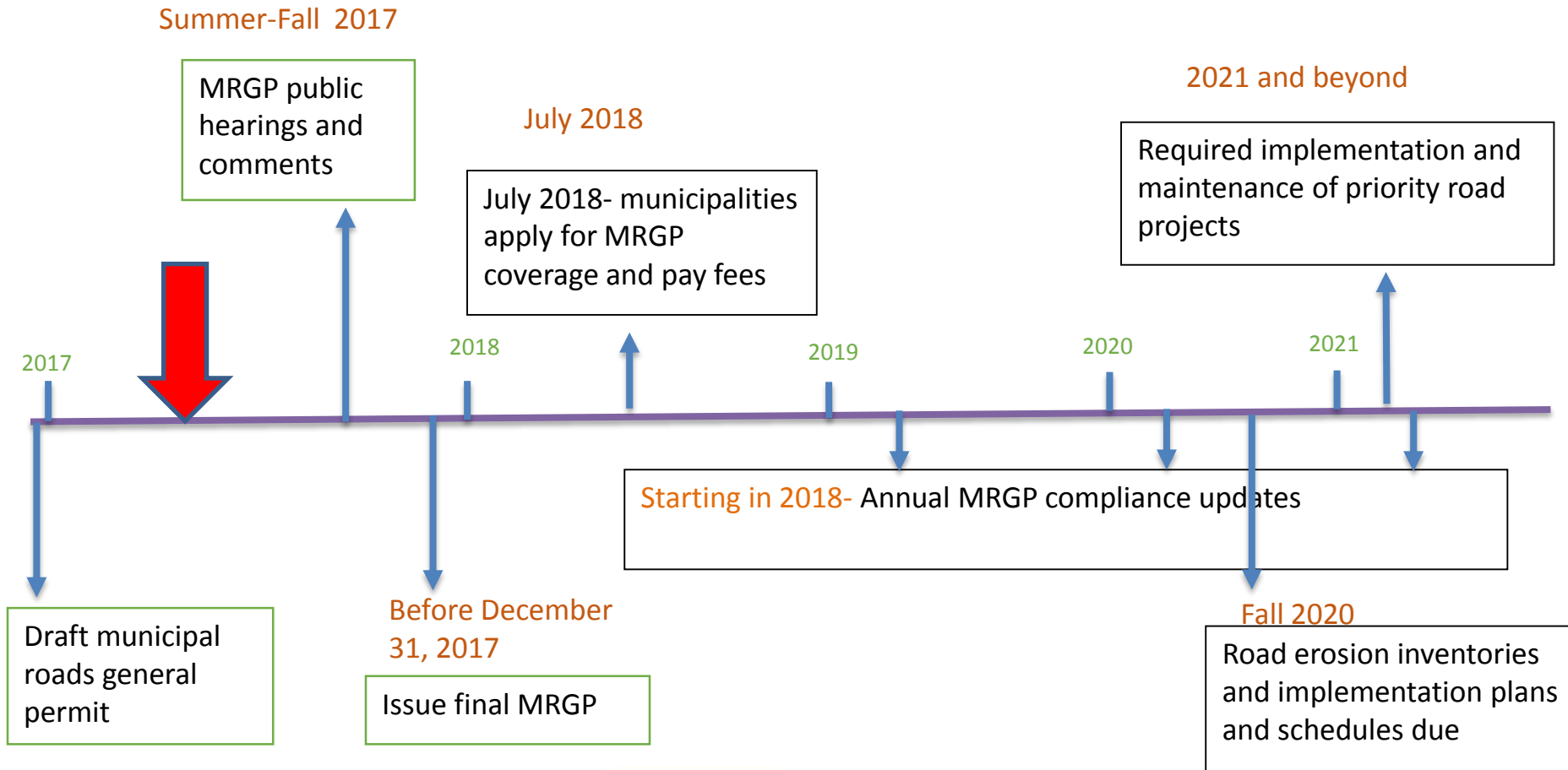
Driveway culvert erosion and remediation (within right-of-way)



Gully erosion and sedimentation



MRGP Timeline of Deliverables 2017-forward



MRGP summary for municipalities:

- Application coverage and annual fees to begin in July-2018
- Road erosion inventories for **hydrologically-connected roads, updated approximately every 5 years or every MRGP permit cycle**
- Implementation plans and schedules
- Road BMP implementation to achieve all connected roads meeting standards by 2038 (a minimum amount of implementation per year)
- Annual reporting on implementation progress

Assistance to towns?



- Funding- *New*
Municipal Grant-in-Aid
- Outreach and Technical assistance
- Shared Equipment

New Muni Road Grant-in-Aid Funding



- Funding for towns based on connected road miles
- Work must be on connected road segments
- Must bring those segments up to MRGP Standards
- 20% town match or in-kind
- RPCs will assist towns with mapping and grant reporting



Vermont Clean Water Funding Opportunities for Municipalities (SFY2018)

VERMONT AGENCY OF TRANSPORTATION (VTrans)

GRANT PROGRAM	DESCRIPTION	FUNDING DETAILS	CONTACT	DUE DATE
Better Roads	<p>Municipal roadway improvements that benefit water quality, including:</p> <p>Inventories of roadway erosion and/or stormwater management issues and capital budget planning (Category A)</p> <p>Correction of road related erosion and/or construction of stormwater management projects (Category B)</p> <p>Correction of streambank and/or slope related problems (Category C)</p> <p>Roadway structures and culvert upgrades (Category D)</p>	<p>Total Funding Available: \$3 million</p> <p>Max. Award:</p> <p>Category A: \$8,000</p> <p>Category B: \$20,000</p> <p>Category C: \$40,000</p> <p>Category D: \$40,000</p> <p>Match Requirement: 20% local</p>	<p>Better Roads Project Coordinators:</p> <p>Alan May, Eastern Vermont alan.may@vermont.gov 802-828-4585</p> <p>Linda Blasch, Western Vermont linda.blasch@vermont.gov 802-498-7216</p> <p>http://vtrans.vermont.gov/highway/better-roads</p>	Annually, late Spring
Municipal Highway and Stormwater Mitigation	<p>Environmental mitigation activities, including stormwater and water pollution prevention, management, and control related to highway construction or highway runoff</p>	<p>Total Funding Available: \$5.9 million</p> <p>Max. Award: N/A</p> <p>Match Requirement: 20% local</p>	<p>Joel Perrigo, VTrans Project Manager joel.perrigo@vermont.gov 802-828-2583</p>	Annually, late Summer
Transportation Alternatives Program	<p>Environmental mitigation activities, including stormwater and water pollution prevention, management, and control related to highway construction or highway runoff</p>	<p>Total Funding Available: \$2.2 million</p> <p>Maximum Award: \$300,000</p> <p>Match Requirement: 20% for design and construction, 50% for scoping</p>	<p>Scott Robertson, VTrans Project Manager scott.robertson@vermont.gov 802-828-5799</p> <p>http://vtrans.vermont.gov/highway/local-projects/transport-alt</p>	Annually, Fall



Screenshot Added

A screenshot was added to your Dropbox.



Vermont Clean Water Funding Opportunities for Municipalities (SFY2018)

VERMONT AGENCY OF NATURAL RESOURCES, DEPARTMENT OF ENVIRONMENTAL CONSERVATION (DEC)

GRANT PROGRAM	DESCRIPTION	FUNDING DETAILS	CONTACT	DUE DATE
Municipal Roads Grants-in-Aid Pilot	Road erosion control projects on hydrologically connected road segments currently not meeting draft Municipal Roads General Permit standards	Total Funding Available: \$2.1 million, allocated based on towns' hydrologically connected road miles Match Requirement: 20% local cash/in-kind	Enroll through your local Regional Planning Commission https://www.vapda.org	July 5, 2017
Ecosystem Restoration Grants	Design and construction of water pollution abatement and control projects that target nonpoint sources of pollution, including stormwater management, natural resources restoration, road erosion control, and municipal capital equipment projects	Total Funding Available: \$3 million Match Requirement: 50% for MS4 stormwater/road projects Capital equipment projects: 50% for large towns (> 5,000 residents) 20% for small towns (≤ 5,000 residents) Non-MS4/capital equipment projects scored higher based on match provided	Marli Rupe, Clean Water Initiative Program Assistant Manager marli.rupe@vermont.gov 802-490-6171 http://dec.vermont.gov/watershed/cwi/grants	Rolling applications with quarterly review
Multi-Sector Clean Water Block Grant	Construction of clean water improvement projects, administered by statewide partner(s), including stormwater management and natural resources restoration projects	Total Funding Available: \$1.5 million Match Requirement: 50% for MS4 stormwater/road projects 20% for non-MS4 projects	Multi-Sector Clean Water Block Grant recipients will administer projects under this program Block Grant recipient contacts will be posted here: http://dec.vermont.gov/watershed/cwi/grants	June 6, 2017
Clean Water State Revolving Loan Fund (CWSRF)	Low interest loans/subsidy for municipal/municipally sponsored wastewater treatment upgrade/refurbishment, combined sewer overflow abatement, and stormwater/nonpoint source management projects	Total Financing Available: \$87 million Match Requirement: N/A	Thomas Brown, CWSRF Program Lead thomas.brown@vermont.gov 802-622-4205 http://dec.vermont.gov/facilities-engineering/water-financing/cwsrf	N/A

