

Jim Ryan

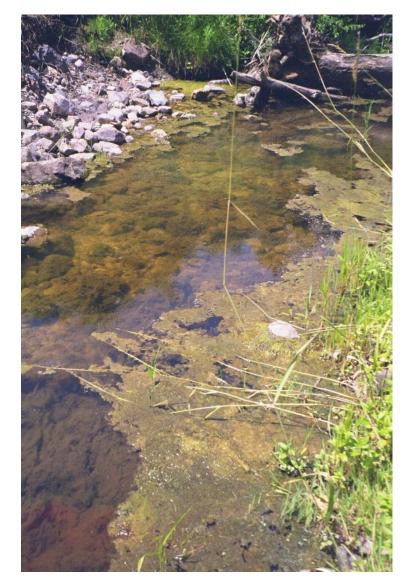


VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION WATERSHED MANAGEMENT DIVISION STORMWATER PROGRAM

DEC's Municipal Roads General Permit

Potential Road Pollutants

- Nutrients- Phosphorus
- Sediment
- Trace heavy metals
- Hydrocarbons
- Road salt



Long Island Sound Post-TS Irene



Secondary benefits: flood resilience and reducing town road maintenance and costs

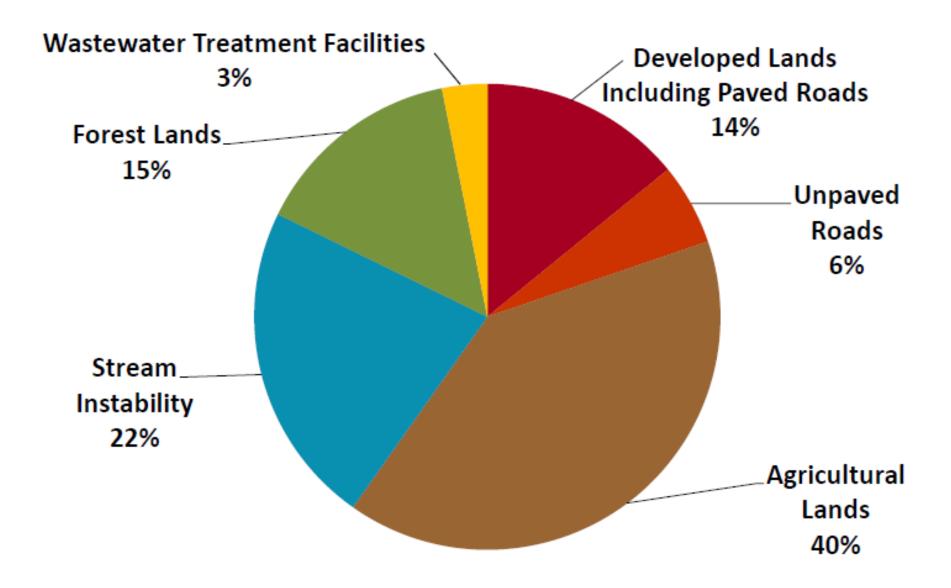


Photo Credits: Beverley Wemple

Wemple

Bryan Pfeiffer

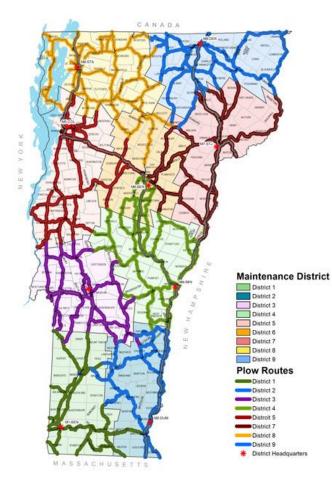
Sources of phosphorus in the Vermont portion of the Lake Champlain Basin (Preliminary estimates from Tetra Tech, 2013)

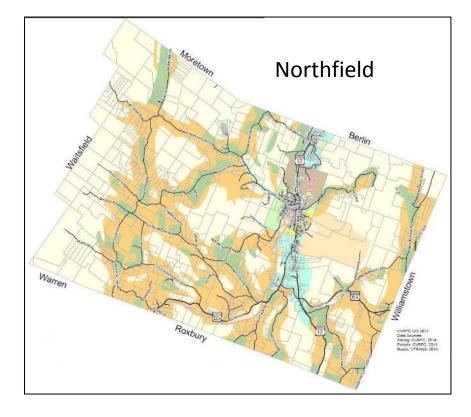


Stormwater & Roads

VTrans TS4 Permit

Municipal roadways





Act 64 Language regarding the MRGP

(2)(A) The Secretary <mark>shall issue on or before December 31, 2017, a general permit for discharges</mark> 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:

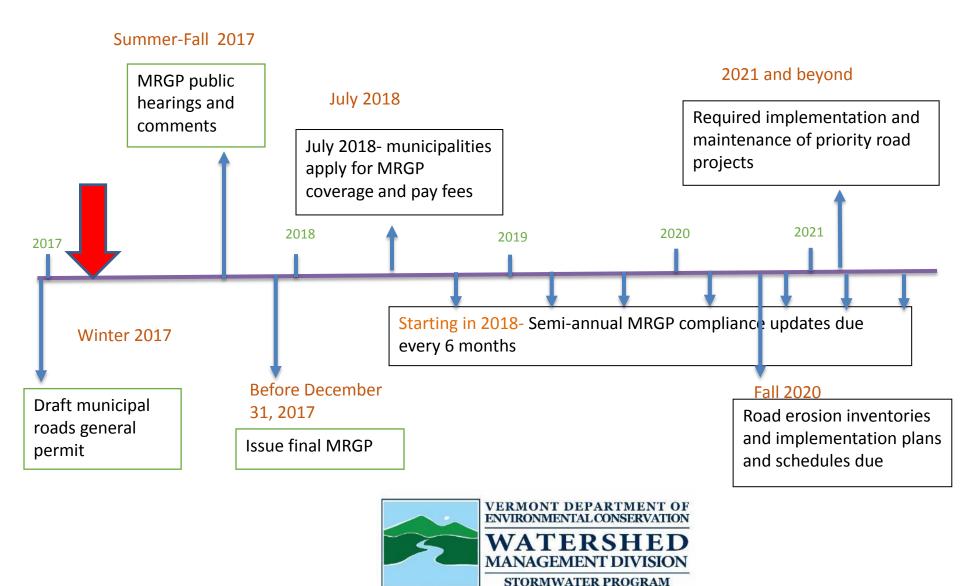
(I) the date by which each municipality shall apply for coverage under the municipal roads general permit;

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

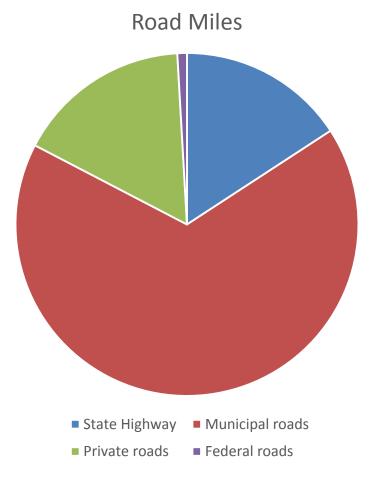
(III<mark>) the date by which each municipality shall establish a plan for implementation of stormwater improvements that prioritizes Stormwater improvements according to criteria established by the Secretary under the general permit; and</mark>

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

MRGP Timeline of Deliverables 2017-forward



Vermont Road Mileage



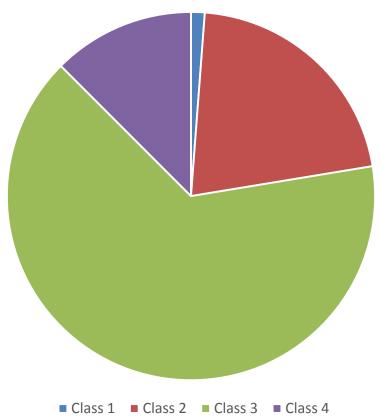
- 18,818 total road miles
- 155 miles of federal roads-1%
- 2,709 miles of state highway- 14%
- 2,823 miles of private roads- 15%
- 13,131 miles of town highway (Classes 1-4)- 70%

Municipal Road Classes

Road Class Distribution

Road Classes

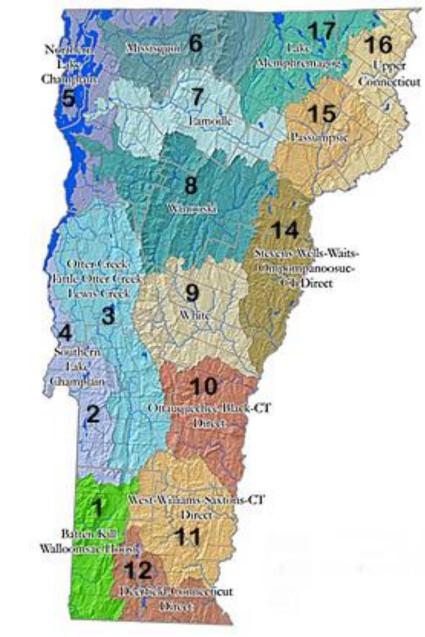
- <u>Class 1:</u> 1.2% (VTrans and municipally-maintained)
- <u>Class 2:</u> 21.2%
- <u>Class 3:</u> 65.1%
- <u>Class 4:</u> 12.5%



Municipal Roads General Permit (MRGP)

 Will cover all Vermont municipalities

 Jurisdiction limited to ROW



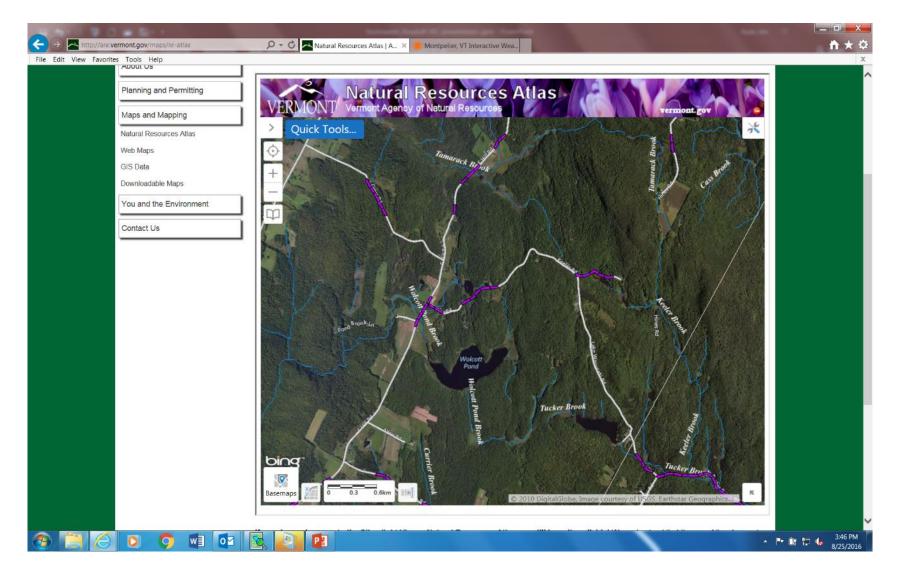
Purpose of the Roads Permit

 Bring connected road segments up to basic maintenance standards



 By implementing Best Management Practices (BMPs)necessary to reduce erosion

Hydrologically-connected Road Segments



MRGP- Components





Inventory

Prioritize

🙀 🎭 - 🐡 - Draft Inventory Planning spreadtheet.stor Excel Rya												
ile	Home	Insert P	age Layout Forr			C Tell me what you want to do						
h	X Cut	Calib	ri • 11 •	- A A ==	- ≫- 🔐 w:	ap Text General +		Normal Bad	Good	ē 🎠 🖬	Σ AutoSum	· Ατ 🔎
50	Copy -				21 XI 32 30 44	rge & Center - \$ - % , 11 .2	Conditional Form	t as Neutral Calculat		Insert Delete Forma	🔹 Fill =	Sort & Find &
	💞 Format	Painter	8 - [· <u>A</u> · = = = =			Formatting - Tabi		v l		e Clear -	Filter - Select -
	Clipboard	- 6	Forit	6	Alignment	n Number n		Styles		Cells	Ð	Ring
		I X	√ fr Reas	son for Condition- a	also include recent	t flooding damage here						
	٨	в	c	D	F	F	G	н		L J	К	L
т	own Name									,	n	
		In	itial Inventory da	ate (2016) and find	ings, next invent	ory due (2021)		Planned and Actua	Remediation Practices			
h		Planned Action (only fill in										
c	onnected s	Connected o	Road Type	Segment slope%	Condition	Reason for Condition- also include r	e Remediation p		Actual implementation specifi	Date Completed	2020	Apr-21
v	T-001		Paved-ditched	9	Partially Meets	Gullied ditch: culvert condition	2017	500'sld, 1 culvert header	grass ditch: replaced culvert	2017	Fully Meets	
٧	T-002		Gravel-ditched	10	Does Not Meet	steep ditch slope, no sld	2019	250' sld	300' sld	2017	Fully Meets	
٧	T-003		Class 4	11	Does Not Meet	gully erosion	2018	100' gully restoration	150' gully restoration	2018	Fully Meets	
٧	T- 004		Paved-ditched	5	Does Not Meet	no ditch	2018	300' gld	310' gld, install 2-18" culverts	2019	Fully Meets	
۷	T-005		Paved-ditched	9	Does Not Meet	no ditch stone	2017	600' sld	800' sld, 3 turnouts	2018	Fully Meets	
٧	T-006		Gravel-ditched	4	Partially Meets	no crown, undersized culvert	2020	crown 328', install 18" culvert	crown 328', install 4-18" culvert	2020	Fully Meets	
٧	T- 007		Gravel-ditched	12	Partially Meets	2 undersized culverts	2020	Install 2-18" culverts	installed 2-18" culverts	2020	Fully Meets	
٧	T-008		Gravel-ditched	0%	Partially Meets	bare ditches	2023	Hydo-seed 400'				
٧	T-009		Gravel-ditched	8	Partially Meets	undersized conveyance culvert	2023	Install 3' diameter culvert				
v	T-010		Gravel-ditched	3	Partially Meets	no crown, no ditch	2021	crown 328', install 656' gld				
٧	T-011		Class 4	5	Partially Meets	undersized drainage culvert	2021	Install 18" culvert				
v	T-012		Class 4	7	Partially Meets	gully erosion	2021	Install 6 water bars				
٧	T-013	Added segme	Gravel-ditched	7	Does Not Meet	drive culvert lacking and erosion	2022	Install 4-15" drive culverts				
٧	T-014	Added segme	Gravel-ditched	2	Does Not Meet	drive culvert lacking and erosion	2022	Install 6-15" drive culverts				
٧	T-015		Paved-ditched	1	Does Not Meet	no veg in ditch	2022	Install 400' of gld				
٧	T-016		Paved-ditched	1	Does Not Meet	no crown, bare ditch	2023	Hydro-seed 656' of ditch				
٧	T-017		Gravel-ditched	4	Does Not Meet	culvert outlet erosion	2023	Install 5 culvert stone aprons				
۷	T-018		Gravel-ditched	6	Does Not Meet	culvert outlet erosion	2021	Install 4 culvert stone aprons				
	T-019		Gravel-ditched	9	Does Not Meet	culvert outlet erosion	2022	Install 2 culvert plunge pools				
	T-020		Class 4	10	Partially Meets	gully erosion on travel lane	2024-2028 per					
	T-021		Class 4	15	Partially Meets	gully erosion around culverts	2024-2028 per					
	T-022		Paved-ditched	17	Partially Meets	high shoulder	2024-2028 per					
	T-023		Paved-ditched	18	Partially Meets	high shoulder	2024-2028 per					
	T-024		Class 4	12	Does Not Meet	culvert gully erosion	2024-2028 per					
	T-025		Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 per					
	T-026		Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 per					
	T-027		Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 per					
	T-028		Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 per					
	T-029		Gravel-ditched	3	Partially Meets	drive culvert lacking and erosion	2024-2028 per					
	T-030	Added segme	Gravel-ditched	17	Partially Meets	drive culvert lacking and erosion	2024-2028 per	nit cycle				
Ĩ	> St	neet1 (+)					1.4				
21											H E	+
ŝ.	-		-		-14	110				-		1.29

Implement



Road Stormwater Management Plans

Plan components will include:

- Road erosion inventory of Hydrologicallyconnected segments
- Implementation Plan and Schedule to bring non-complying road segments to MRGP standards

New inventory and Implementation Plan every 5 years



Interim Road Inventory and Evaluation Form B GRAVEL/OPEN (DITCHED) NON CLASS 4 ROADS

1 Road Segment = 100 meters = 328 feet

Both sides of road = 200 meters = 656 feet

Measure erosion quantity, noting mod		Both sides of road = 200 meters = 656 feet				
ROAD SEGMENT ID NUMBER(S):						
ROADWAY CROWN: Map where erosion is en	vident within the travel lane/roadway					
What percentage of the segment is NOT pro	perly crowned (1/4"/ft.), in-sloped, or out-	sloped?				
0% - 49%	50% - 89%	90% - 100%				
GRADER BERM/WINDROW/HIGH SHOULDE	R: Map where erosion is forming a second	lary ditch				
What percentage of the segment (both side	s of road, 200m, 656') is the grader berm,	/windrow/high shoulder NOT removed?				
0% - 49%	50% - 89%	90% - 100%				
ROAD DRAINAGE: Map where erosion is evid						
or stone (>5% slope) or NOT allowed to shee	et flow to a vegetated or forested filter are					
0% - 49%	50% - 89%	90% - 100%				
DRAINAGE CULVERTS						
SIZING: Map where drainage culverts are u	ndersized, absent but needed, and/or whe	ere erosion is present due to culvert size				
Total drainage culverts within segment:						
Total drainage culverts that are LESS THAN	18":					
END TREATMENTS: Map where drainage cu	lvert end treatment is needed and/or whe	re erosion is present				
Total drainage culvert ends lacking appropri	iate stone or headwall treatment:					
OUTLET STABILITY: Map where drainage cul						
Total drainage culvert outlets lacking approp						
CONVEYANCE ZONE/AREA: Map where drain		not turned out or stabilized with vegetation				
(<5% slope) or stone (>5% slope), and/or where erosion is present. Total # drainage outlets/conveyance zone/areas within segment:						
Total # drainage outlets/conveyance zone/a	-					
DRIVEWAY CULVERTS						
SIZING: Map where driveway culverts are ur	ndersized, absent but needed, and/or whe	ere erosion is evident due to culvert size				
Total driveway culverts within segment:						
Total driveway culverts that are LESS THAN						
END TREATMENTS: Map where driveway cu	lvert end treatment is needed and/or whe	re erosion is present				

Total driveway culvert ends lacking appropriate stone or headwall treatment:

Implementation Plan and Schedule

🖬 🕤 🚽 🔻 Draft Inventory Planning spreadsheet.xlsx - Excel Ryan, Jim 🗇										- 0 ×	
Fi	le Home	Insert Page Layout For	mulas Data Re	view View ⁽	${\mathbb Q}$ Tell me what you want to do						P ₊ Shar
	👢 👗 Cut	Calibri + 11	- A A = = =	🔊 🍖 🖓 Wra	ap Text General -		Normal Bad	Good	🖶 🖹 🗒	Σ AutoSum	
Deat	🗌 🖻 Copy 👻					_ _		· · · · · · · · · · · · · · · · · · ·		👽 Fill 👻	*
Past	e ؇ Format	Painter B I U - C	<mark>} • <u>A</u> • ≡ ≡ ≡</mark>	Kei 主 🖻 Mei		Conditional Forma Formatting - Table		ion Check Cell 🗸	Insert Delete Format	🕹 📌 Clear 👻	Sort & Find & Filter - Select -
	Clipboard	ra Font	rs.	Alignment	rs Number rs		Styles		Cells	Ec	diting
										-	
F3	•	$X \checkmark f_x$ Reas	on for Condition- a	lso include recent	flooding damage here						
	А	B C	D	E	F	G	Н	I	J	К	L
1	Town Name										
2		Initial Inventory da	ate (2016) and findi	ings, next invento	ory due (2021)	due (2021) Planned and Actual			Remediation Practices		
							Planned Action (only fill in				
3	Connected s	Connected o Road Type	Segment slope%	Condition	Reason for Condition- also include re	Remediation pl	details for 2021-2023)	Actual implementation specifi	Date Completed	2020	Apr-21
	VT-001	Paved-ditched	9	Partially Meets	Gullied ditch; culvert condition	2017	500'sld, 1 culvert header	grass ditch; replaced culvert	2017	Fully Meets	
5	VT-002	Gravel-ditched	10	Does Not Meet	steep ditch slope, no sld	2019	250' sld	300' sld	2017	Fully Meets	
	VT-003	Class 4	11	Does Not Meet	gully erosion	2018	100' gully restoration	150' gully restoration	2018	Fully Meets	
	VT- 004	Paved-ditched	5	Does Not Meet	no ditch	2018	300' gld	310' gld, install 2-18" culverts	2019	Fully Meets	
	VT-005	Paved-ditched	9	Does Not Meet	no ditch stone	2017	600' sld	800' sld, 3 turnouts	2018	Fully Meets	
	VT-006	Gravel-ditched	4	Partially Meets	no crown, undersized culvert	2020	crown 328', install 18" culvert	crown 328', install 4-18" culver		Fully Meets	
	VT- 007	Gravel-ditched	12	Partially Meets	2 undersized culverts	2020	Install 2-18" culverts	installed 2-18" culverts	2020	Fully Meets	
	VT-008	Gravel-ditched	0%	Partially Meets	bare ditches	2023	Hydo-seed 400'				
	VT-009	Gravel-ditched	8	Partially Meets	undersized conveyance culvert	2023	Install 3' diameter culvert				
	VT-010	Gravel-ditched	3	Partially Meets	no crown, no ditch	2021	crown 328', install 656' gld				
	VT-011	Class 4	5	Partially Meets	undersized drainage culvert	2021	Install 18" culvert				
	VT-012	Class 4	7	Partially Meets	gully erosion	2021	Install 6 water bars				
	VT-013	Added segme Gravel-ditched	7	Does Not Meet	drive culvert lacking and erosion	2022	Install 4-15" drive culverts				
	VT-014	Added segme Gravel-ditched	2	Does Not Meet	drive culvert lacking and erosion	2022	Install 6-15" drive culverts				
	VT-015	Paved-ditched	1	Does Not Meet	no veg in ditch	2022	Install 400' of gld				
	VT-016	Paved-ditched	1	Does Not Meet	no crown, bare ditch	2023	Hydro-seed 656' of ditch				
	VT-017	Gravel-ditched Gravel-ditched	6	Does Not Meet	culvert outlet erosion culvert outlet erosion	2023	Install 5 culvert stone aprons				
	VT-018 VT-019	Gravel-ditched	9	Does Not Meet Does Not Meet	culvert outlet erosion	2021	Install 4 culvert stone aprons Install 2 culvert plunge pools				
	VT-019 VT-020	Class 4	10	Partially Meets	gully erosion on travel lane	2022 2024-2028 perm					
	VT-020	Class 4	15	Partially Meets	gully erosion around culverts	2024-2028 perm					
	VT-021	Paved-ditched	17	Partially Meets	high shoulder	2024-2028 perm					
	VT-023	Paved-ditched	18	Partially Meets	high shoulder	2024-2028 perm					
	VT-024	Class 4	12	Does Not Meet	culvert gully erosion	2024-2028 perm					
	VT-025	Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 perm					
	VT-026	Class 4	3	Does Not Meet	culvert outlet erosion	2024-2028 perm					
	VT-027	Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 perm					
	VT-028	Gravel-ditched	5	Does Not Meet	culvert outlet erosion	2024-2028 perm					
32	VT-029	Added segme Gravel-ditched	3	Partially Meets	drive culvert lacking and erosion	2024-2028 perm	nit cycle				
33	VT-030	Added segme Gravel-ditched	17	Partially Meets	drive culvert lacking and erosion	2024-2028 perm	nit cycle				
24	Sheet1										
) SI	heet1 +					•				

XI

P

Ready

0

O

w

0

Ħ

MRGP Practices

- Stone-lined ditches and check dams
- Grass-lined drainage ditches
- Turn outs
- Road crowning
- Properly sized drainage culverts
- Culvert headers
- Culvert outlet stabilization



Draft MRGP standards for different road types

	Paved- curbed	Paved- not curbed	Gravel (Not Class 4)	Class 4*	
18" minimum drainage culverts	New construct or major rehab only	Replace or retrofit if erosion present	Replace or retrofit if erosion present	*	
Culvert headwalls/ stable outlets	N/A	Install or retrofit if erosion present	Install or retrofit if erosion present	*	
Grass-lined ditch and/or check dams	N/A	Required <8% slopes	Required <8% slopes	*	
Stone-lined ditch	N/A	Required all slopes 8%+	Required all slopes 8%+	*	
Road crowning	N/A	New construction or major rehab only	Required	*	
Gully stabilization	At CB outlets	Required	Required	*If gully erosion is present anywhere within ROW, stabilization needed	
Water bars/dips	N/A	N/A	N/A	*	
Stable turnouts and conveyances	Required	Required	Required	*	

Implementation "Triggers"

Required baseline standards- no matter what existing conditions are:

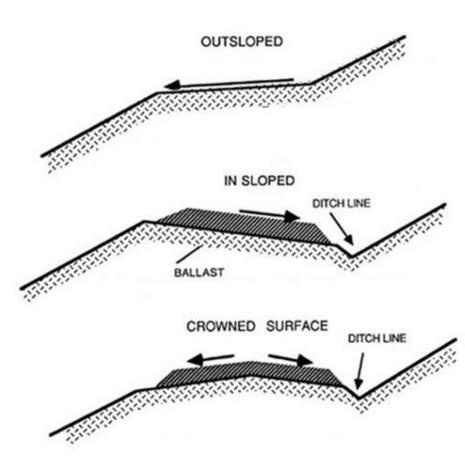
- Road grading/crowning
- Grass and stone-lined ditching or sheet flow (based on slope)
- Removal of grader berm/lowering of shoulders
- Stable turnouts/conveyances

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
- Winter sand pile erosion
- Catch basin outfall erosion

Required Baseline Standard

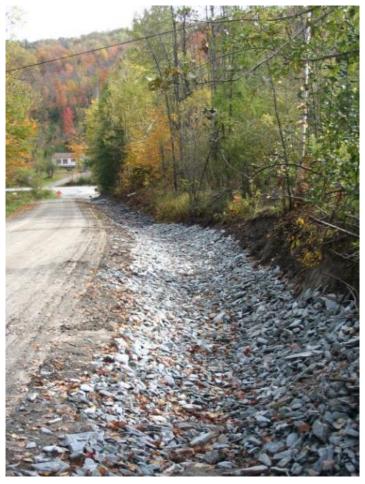
Road crowning





Required Baseline Standard- grass and stone-lined drainage ditches





Lack of culvert headwall/header





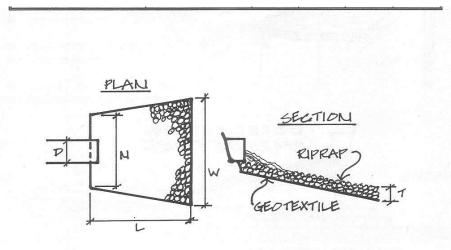
Drainage and driveway culvert erosion and remediation



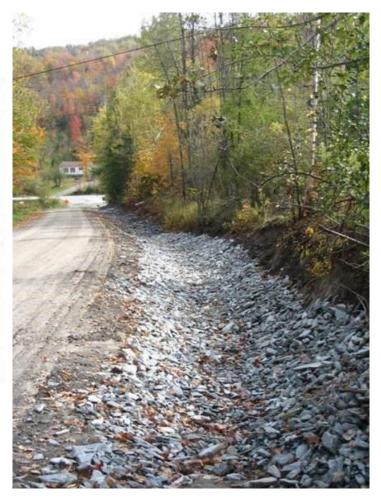




Water quality BMPs= Good road drainage practices= Long term \$\$ savings



DETAIL - ROCK APRON



Municipal Sand Piles







MRGP- Town Example

Town A. has 50 total road miles

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

New MRGP Fees?

- New application
 \$400 review fee
 \$240 admin processing fee
- Annual operating fee \$2,000
- Renewal application (~every 5 years)
 \$240 admin processing fee
- Fee established through Legislative Fee Bill

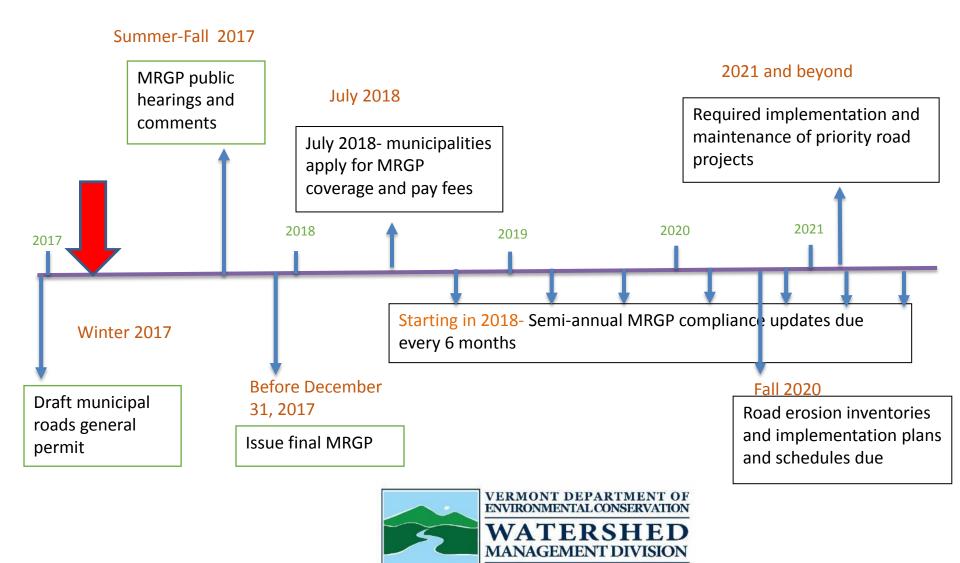


Will in-stream perennial culvert replacements be part of the MRGP?



- No, only the replacement of drainage culverts if erosion present
- Drainage and conveyance culverts will be properlysized and aligned if eroding
- Culverts may require header and/or outlet stabilization if eroding

MRGP Timeline of Deliverables 2017-forward



STORMWATER PROGRAM

MRGP Regional Outreach Groups:



- County road foremen groups
- TAC and CWAC groups
- RPC transportation planners
- Roads Roundtables
- Town Officer trainings
- Selectboard Institute
- VLCT WQ Advisory Committee

MRGP- Stakeholder Groups

- Core Team- assists DEC in developing MRGP development, process, and determines municipal needs
- Technical Team- assists DEC in developing science-base road standards
- New- Road Foremen Advisory Committee



Summary for municipalities:

- New DEC municipal roads general permit
- Application coverage and annual fees to begin in mid-2018 (currently proposed)
- Road erosion inventories for **hydrologically-connected roads**
- Implementation plans and schedules
- Road BMP implementation and brief annual compliance reports
- New inventories and implementation plans every 5 years

What's Next?

- First half of 2017- MRGP outreach push
- Second half of 2017- MRGP public hearing, comments, and finalization



Questions, Comments, Suggestions?

Jim Ryan- DEC Municipal Roads Program <u>http://www.watershedmanagement.vt.gov/stor</u> <u>mwater/htm/sw_municipalroads.htm</u>

> jim.ryan@vermont.gov (802) 490-6140

VTrans and the Municipal Roads General Permit

Gina Campoli, VTrans Environmental Policy Manager House Fish, Wildlife and Natural Resources Committee January 26, 2017







MRGP and VTrans Town Road and Bridge Standards

- Current VTrans Orange Book Standards will be extended until MRGP coverage begins
- Practices Standards will be compatible
- The geographic applicability will likely differ



Handbook for Local Officials

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 a15 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% ($^{1}/_{4}$ $^{1}/_{2}$ per ft) crown for gravel roads and a 1-2% ($^{1}/_{6}$ $^{1}/_{4}$ 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.

VTrans Water Quality Roles & Responsibilities



Funding to Address Run-off from Municipal Roads



utreach & Technical Assistance

4 State Roads General Permit



VTrans Municipal Water Quality Funding – FY 18 Request

	VTrans Working to Get Vou There
FY 18 TOTAL:	\$9,982,342
Clean Water Fund:	\$1,100,000
Federal Revenue Funds:	\$7,242,342
State Transportation Fund:	\$1,640,000

Program Priorities Begun Last Year :

□Continue building on popular and successful programs that are easy to implement & make a difference

□ Brought paved roads into the Better Back Roads program – *Better Roads*

Help towns undertake the planning and implementation necessary to comply with the municipal roads permit – for example erosion inventories and prioritization & improvements mandated by the permit

□ Include Tactical Basin Plan priorities in grant selection criteria

□ Program accountability through performance monitoring



Category "A" Grants (Road Erosion Inventory and Capital Budget):

Capped at \$10,000 per project
 \$8,000 (state) \$2,000 (local)

G 62 Projects





Category "B" Grants: Correction of road erosion problems and stormwater mitigation/retrofits for both gravel & paved roads:

- Examples of work: stone or grass lined ditches, turnouts, stone check dams, splash pools, rain gardens, swirl concentrator devices, dry wells, gravel wetlands, level spreaders
- Capped at \$25,000 per project, \$20,000 state and \$5,000 local





Fairfield, VT Before

4/25/2014



Fairfield, VT After

9/02/2014



Category "C" Grants: Correction of stream bank or slope - related problem:

- Examples of work: stream bank stabilization or restoration, stone lined slopes.
- Capped at \$50,000 per project, \$40,000 state and \$10,000 local
- Consultation with ANR Stream Alteration program and/or US Army Corp required





□ 14 Projects

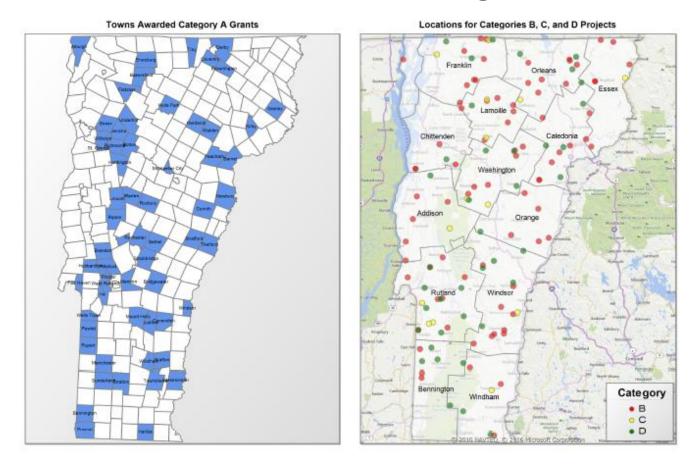
Category "D" Grants: Structure/culvert upgrades:

- Examples of work: culvert and structure upgrades & replacements and culvert head gut and gully stabilization
- Capped at \$50,000 per project, \$40,000 state and \$10,000 local

□ 39 Projects









VTrans Water Quality Outreach & Technical Assistance





Focus of work:

- Availability of grants & how to apply Better Roads Program
- Coordination with DEC (Jim Ryan!) in reaching out to municipalities regarding the Municipal Roads Permit - RPCs, Vermont Local Roads program, VLCT
- Ongoing and continuous dialogue with local officials regarding what works and what doesn't from a practioner's perspective VT Local Roads Program

Vermont Local Roads Program





Some Trainings Include:

- Grader operations
- Road fundamentals
- Road drainage
- Rivers and Roads (with DEC)
- Roads Roundtables (with DEC)

http://localroads.vermont.gov/



Daniel Dutcher, VTrans Senior Environmental Policy Analyst <u>Daniel.Dutcher@vermont.gov</u>

