

Stormwater Management Plan

Town of Rutland, Vermont

General Permit 3-9014, NPDES Number VTR040000



*Submitted to the Vermont Department of
Environmental Conservation
Watershed Management Division*



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Town of Rutland, Vermont Storm Water Management Plan

INTRODUCTION

The following represents the Town of Rutland's Storm Water Management Program, (SWMP) as required by the State of Vermont, Agency of Natural Resources, Department of Environmental Conservation, National Pollutant Discharge Elimination System, (NPDES), General Permit 3-9014 (2012) for Storm Water discharges from Small Municipal Separate Storm Sewer Systems.

WATERSHED DESCRIPTION

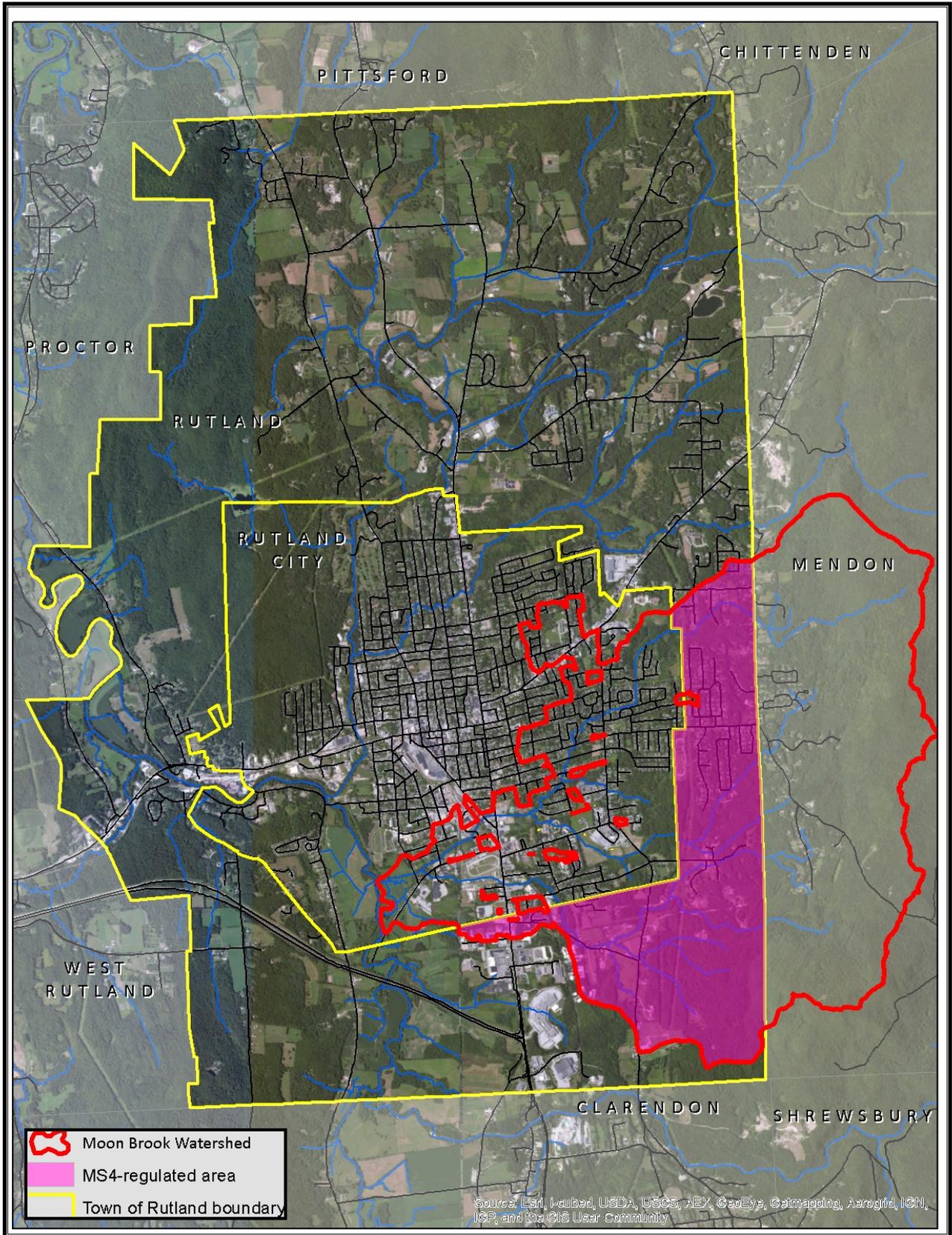
The Moon Brook watershed within the Town of Rutland is the regulated area under this SWMP. The Moon Brook watershed encompasses 2.44 square miles of the Town. Within this regulated area are 21 known stormwater outfall locations. These outfalls were previously mapped by the VT DEC. A map of the regulated area is provided on page 3 of this Plan.

WATER QUALITY BASED REQUIREMENTS

Pursuant to Clean Water Act 402(p)(3)(B)(iii), the permit includes provisions which require the permittee to reduce the discharge of pollutants to the maximum extent practicable, protect water quality, and to satisfy the Clean Water Act.

REQUIREMENTS TO MEET WATER QUALITY STANDARDS

Discharges shall not cause or contribute to an exceedance of applicable water quality standards for the receiving water. Applicable water quality standards are the Vermont Water Quality Standards that are in place upon the effective date of the permit. Except for discharges addressed by part IV.C.1 of the permit, if at any time the Town becomes aware that a discharge causes or contributes to an exceedance of applicable water quality standards, the Town shall within 60 days of becoming aware of the situation eliminate the conditions causing or contributing to the exceedance of water quality standards.



If elimination within 60 days is infeasible the Town shall document in its SWMP measures and anticipated timeframes to eliminate the conditions causing or contributing to the exceedance. Within 30 days of eliminating the condition, the Town shall document the measures used to correct the condition in the SWMP.

The Town will include in its annual report a description of any such discharges identified during the reporting period; a description of measures taken to eliminate conditions during the reporting period or the basis of a finding that elimination is infeasible; and a timeframe for completion of all steps necessary to eliminate such discharges. The Town shall comply with any additional requirements or schedules established by the Secretary, including any requirements to submit additional information concerning the potential cause of the exceedance.

DISCHARGES TO IMPAIRED WATERS

The VT DEC has identified the Moon Brook Watershed as being impaired by stormwater. The Town of Rutland intends to achieve compliance through the implementation of the SWMP contained on the following pages, to include specific actions outlined within the six minimum control measures.

The Town's SWMP contains several strategies aimed at controlling stormwater runoff pollution. These strategies include controlling sediment through the implementation of Construction Site Storm Water Runoff Controls, and Post-Construction Storm Water Management in New Development and Redevelopment. The Plan also works toward the control of illicit discharges through the implementation of the Town's Illicit Discharge Detection and Elimination Program. The Town will also work with the Rutland Natural Resources Conservation District (RNRCD) to support and publicize its cleanup activities with a focus on the Moon Brook and its tributaries, as well as the Trees for Streams program to increase vegetated buffers in riparian areas. The Town will also undertake a storm drain stenciling program to identify catch basins that drain to waterways, and will complete an assessment of municipal operations to improve maintenance of the stormwater system and to limit pollutant discharge from the public works yard. These activities will be focused within the Moon Brook watershed primarily, because it is the MS4-regulated area of the Town subject to the requirements of General Permit 3-9014 (2012). However regulatory implementation including illicit discharge and construction/post-construction runoff control will likely be applied Town-wide.

DISCHARGES TO IMPAIRED WATERS WITH AN APPROVED TMDL

Flow Restoration Plans - The Town is currently working on a study to identify and prioritize potential stormwater retrofit opportunities in Moon Brook to make progress toward Flow Restoration Plan (FRP) requirements under the Moon Brook TMDL. The Town intends to prepare

a complete FRP and submit the Plan to the Secretary no later than three years after the date of issuance of an authorization to discharge to the Town under this permit. The FRP will contain the following;

- ✓ An identification of the suite of necessary storm water BMP's that will be used to achieve the flow restoration targets.
- ✓ A design and construction schedule for the storm water BMP's that has been identified as necessary to achieve the flow restoration targets.
- ✓ A financing plan that estimates the cost of implementing the FRP.
- ✓ A regulatory analysis that identifies and describes what, if any, additional regulatory authorities will be needed to implement the FRP.
- ✓ An identification of regulatory assistance that will be needed to implement the FRP.
- ✓ An identification of any third party that is responsible for implementation of the FRP.

Plan to Address Expired Permits – The Town is proposing to take over operation and maintenance for the two expired permits within the watershed, #1-1031 and 4375-INDS.

Landowner Technical Assistance – Two years after the issuance of an authorization, the Town will develop a program to identify opportunities for and provide technical assistance to landowners in the implementation by landowners of low impact BMP's. The Town intends to work with the RNRCD on this effort. The RNRCD has already made significant progress with the installation of low impact BMPs in the Moon Brook watershed by funding and installing rain gardens on various private properties in the City of Rutland.

Protection and Regulation of Development in Stream Corridors – The Town will develop and submit a Plan to the VT DEC outlining options for enhanced protection of stream corridors of storm water impaired waters. The Plan will include a map of stream corridors depicting areas that have been converted to impervious surface and areas that are undeveloped or have not been converted to impervious surface. The Plan will also include a regulatory document aimed at protecting the existing undeveloped riparian corridor. The Plan and regulatory document will be prepared based on information collected in the field, the Moon Brook TMDL, and previous studies including Phase I and II geomorphic assessments previously completed for Moon Brook.

Flow and Precipitation Monitoring Program – The Town intends to implement or otherwise fund a flow and precipitation monitoring program, subject to the Flow and Precipitation Monitoring Guidance for Stormwater Impaired Streams by the VT DEC dated July, 2013.

Six Minimum Control Measures – The Town has developed a SWMP which contains the required Six Minimum Control Measures (MCMs) to reduce pollutants to the Maximum Extent Practical.

MINIMUM CONTROL MEASURES

Public Education and Outreach on Storm Water Impacts

BMP 1-2,3,4,5 Participate in RSEP - The Town is presently working with the RRPC to develop the framework for a program meeting the minimum requirements of MCM1, including:

- ✓ The development and distribution of stormwater brochures at least twice in the first permit year and once in subsequent years;
- ✓ Coordination with local new media to run at least two stormwater-related stories per year;
- ✓ Development of stormwater educational materials to be integrated into the local school and annual teacher trainings on the materials.

BMP 1-1 Maintain Storm Water Web Site - The Town of Rutland intends to work with the Rutland Regional Planning Commission (RRPC) to develop a stormwater webpage. This webpage will be a clearinghouse of stormwater-related information and activities within the Moon Brook watershed that involve the Town.

A memorandum of understanding (MOU) between the Town and the RRPC is currently being developed. This MOU will describe the tasks proposed to be completed to fulfill MCM1 as part of this new regional education and outreach strategy. A copy of this MOU associated with this regional initiative will be forwarded to the VT DEC when complete.

Public Involvement and Participation

BMP 2-9 Participate in RCST - The Town intends to work with the RRPC to develop the framework for a Rutland County Stream Team (RCST). This program will be modeled after the Chittenden County Stream Team program and will meet the minimum requirements by offering at least 3 BMPs from Section H.2.A of the MS4 permit. The activities proposed for implementation include the following:

BMP 2-4 Catch Basin Stenciling – The Town, through the regional program, will engage the RNRCD to order and install stenciling on catch basins within the Moon Brook watershed.

BMP 2-5 Community Stream Corridor Cleanup – As a part of the Town’s Green-up Day activities, the Town will work with the RNRCD to target its cleanup efforts within the Moon Brook and its tributaries.

BMP 2-8 Trees for Streams Program – The Town will support the effort of the RNRCD to implement a Trees for Streams (TFS) program within the Moon Brook watershed. The Town will assist with recruiting volunteers and funding the community planting program which aims to increase buffers by planting native trees and shrubs in riparian buffer areas.

Rationale

The Best Management Practices, (BMP’s) identified under this minimum control measure are geared toward implementation, which the Town sees as the highest priority. Actionable items such as this will serve to engage and educate local residents and allow for networking related to watershed issues.

In addition, the programs selected are priority for the RNRCD already, and the Town wishes to provide the backing necessary for these programs to have the greatest impact for improving the aesthetics and watershed quality of the Moon Brook watershed.

The catch basin stenciling project will serve to educate the stenciling volunteers as well as the Town about where catch basins are located and how they convey runoff to the Moon Brook. The stenciling project will allow for a visual inspection of the condition of the catch basin and any needed maintenance. The stenciling will provide a visual queue to residents that illegal dumping of materials into the catch basin does not travel to a wastewater treatment plan but rather discharges directly to the stream.

A Green-up specifically focused for the Moon Brook and its tributaries, as well as the TFS program, will allow for people to become more familiar with the geography of the stream and will be very useful for improving aesthetics and water quality conditions in and around the Moon Brook.

The Town considers the Moon Brook watershed first priority for implementation of this BMP although the program will also be evaluated on a Town-wide basis.

Illicit Discharge Detection and Elimination

BMP 3-1 Develop and enforce a program to detect and eliminate illicit discharges – An Illicit Discharge Detection and Elimination (IDDE) study is in the process of being

completed for the Moon Brook watershed by an independent consultant. When the final report is available, the Town will assess the locations of any pinpointed illicit discharges, and will formulate an implementation schedule to address each illicit discharge. The Town will also work to develop an ordinance to prohibit illegal dumping into the stormwater system.

- BMP 3-2 *Develop and maintain a storm sewer GIS or AutoCAD map* – The VT DEC has recently mapped catch basins, manholes, stormwater pipes, open swales, and stormwater outfalls in a GIS format. The Town presently has GIS software and can utilize this data. As stormwater retrofit projects are evaluated for the Town, additional data will likely be collected and there will be a need to update the data layer. The Town will request all new/corrected infrastructure data be submitted as part of ongoing stormwater planning efforts. In addition, the Town will evaluate requiring developers to submit digital as-built drainage information associated with new development.
- BMP 3-3 *Develop and implement an Illicit Discharge Ordinance* – The Town will develop and implemented an illicit discharge ordinance. The ordinance will regulate the contribution of pollutants to the MS4 from storm water discharges by any user, prohibits illicit connections and discharges to the MS4, and establishes legal authority to carry out the IDDE Plan, including conducting inspections, monitoring, and enforcement procedures to ensure compliance with the ordinance.
- BMP 3-4 *Develop and implement an illicit discharge detection plan, focus on impaired waters and random dumping* – The Town will develop a comprehensive IDDE plan which will outline the technical process for locating potential illicit discharges and then completing the necessary follow up work to pinpoint source areas and eliminate the discharge. The Plan will contain a listing of the discharges previously discovered through the baseline study currently underway, along with a schedule for addressing known discharges within the Town.
- BMP 3-5 *Inform public of illicit discharge and disposal hazards* – The Town will post the illicit discharge ordinance on the RSEP website, and will also provide links to fact sheets on the website related to illegal dumping of hazardous materials into the storm drain system. As part of MCM2, the Town will also be partnering with the RNRCD on a storm drain stenciling project to identify inlets draining to Moon Brook to the public.

BMP 3-6 Address specific categories of Illicit Discharges, if necessary – The Town will investigate water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)), uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, flows from riparian habitats and wetlands, and discharges from firefighting activities. The Town will determine if these activities are significant contributor of pollutants to the Moon Brook watershed. A plan for mitigation will be prepared for any of these activities that are determined to contribute to water quality impacts.

BMP 3-7 Prepare annual report of monitoring and corrective actions taken - The Town will establish files to maintain all documents relating to the management of illicit discharges. A complaint system will also been established to receive citizen complaints through a storm water hotline. The hotline will be posted on the Town’s web site. The IDDE plan will be submitted with this first annual report or six months following the completion of the baseline IDDE investigation report currently in process.

Rationale

The BMP’s identified under this minimum control measure are aimed at reducing the inputs of toxics and pathogens in Moon Brook through a calculated process of identifying and addressing illicit discharges currently originating from the stormwater system, and also educating local residents and businesses on illegal dumping activities. Illicit discharge reduction has been shown to be a very cost effective strategy for reducing pollution and therefore the Town considers this BMP to be highest priority.

The Town considers the Moon Brook watershed first priority for implementation of this BMP although the program will also be evaluated on a Town-wide basis.

Construction Site Storm Water Runoff Control

BMP 4-1 Develop and implement procedures to ensure MS4 construction activities are properly permitted. - The Town will develop a framework to evaluate construction projects to determine if they are subject to General Permit 3-9020 (2008) or an individual NPDES permit through the VT DEC. Earth disturbance activities that are determined to require coverage will be reported to the VT DEC.

- BMP 4-2 Review existing MS4 regulations for effectiveness in managing construction related E & S and consistency with state construction permits - The Town does not currently have zoning or any ordinances related to construction site stormwater management. As such, the framework for this BMP will need to be built from the ground up.
- BMP 4-2a Adopt E & S requirements that are at least as stringent as state requirements – The Town will develop a storm water ordinance which contains a section on construction erosion control requirements that are at least as stringent as State requirements.
- BMP 4-3 Develop and implement an erosion control ordinance that regulates development not subject to state permitting – The Town ordinance will include requirements for projects that fall below the minimum regulatory threshold as set by the VT DEC. At a minimum, sub jurisdictional projects will be required to comply with the *Low Risk Site Handbook for Erosion Prevention and Sediment Control (2006)*.

Rationale

The BMP's identified under this minimum control measure are aimed primarily at limiting the input of sediment and other construction materials to receiving waters, thereby impacting aquatic habitat and releasing nutrients to the aquatic environment. Requiring the implementation of erosion and sediment control BMPs will help keep sediment out of receiving waters and also reduce the burden on downstream stormwater infrastructure such as culverts and catch basins.

The Town considers the Moon Brook watershed first priority for implementation of this BMP although the program will also be evaluated on a Town-wide basis.

Post-Construction Storm Water Management in New Development and Redevelopment.

- BMP 5-1 Review existing MS4 regulations for effectiveness in managing storm water runoff and consistency with state operational permits - The Town does not currently have zoning or any ordinances related to post-construction site stormwater management. As such, the framework for this BMP will need to be built from the ground up. The regulation developed will be consistent with State post-construction permitting standards.

- BMP 5-1a Assess changes to regulations to support LID – LID measures such as raingardens, porous asphalt/pavers/concrete, and rooftop disconnection, will be included in the post-construction regulations developed by the Town. The RSEP program website will provide links to information on LID for residential construction. In addition, the Town will work with the RNRCD to determine what LID practices have been implemented, and which types or practices are working well and have been well-received by the community.
- BMP 5-1b Assess changes to regulations to minimize impervious surfaces through street & parking design – The minimization of impervious surfaces through street and parking design will be considered in the post-construction ordinance that the Town will be preparing.
- BMP 5-1c Adopt requirements that are at least as stringent as state requirements – The Town ordinance to be developed for post-construction stormwater management will be at least as stringent as State requirements.
- BMP 5-2 Develop and implement procedures to identify development – The Town will develop, and implement procedures to identify new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale. The Town will report these projects to the VT DEC for coverage under the State post-construction stormwater permitting program. This information will be reported to the State each year as a part of the MS4 Annual Report.
- BMP 5-3 Develop and implement an ordinance that regulates development – The Town will develop a storm water ordinance that regulates post construction runoff controls for new development or redevelopment projects that disturb greater than or equal to one acre that are part of a larger common plan of development or sale and may not be subject to regulation under the VT DEC post-construction storm water management permit program.
- BMP 5-4 Develop and implement inspection procedures for development - The Town does not currently have a program framework and therefore does not have the capacity to carry out inspections of development projects. There will be opportunities for inspections by Public Works personnel who routinely travel the community to complete their work. In addition, during outfall surveys as part of MCM#3 or cleanup/stenciling efforts as part of MCM#1 and #2, there will be additional opportunities for observation of ongoing development projects. The Town will further consider how inspection procedures can be implemented.

BMP 5-5 Develop and implement procedures to ensure MS4 development activities are properly permitted. – The Town will develop the capacity to at a minimum become informed of proposed construction projects including the total land disturbance and impervious surface to be created. Projects that exceed the minimum thresholds for permitting under the VT DEC will be referred to the State. Projects that do not exceed the minimum post-construction impervious cover standard set by the State but do exceed 1 acre of total disturbance will be subject to the Town regulatory standard to be developed.

Rationale

The BMP's identified under this minimum control measure are aimed at ensuring projects which are proposed in the Town are covered under a post-construction stormwater permit if the minimum regulatory threshold is exceeded. Coverage under a State permit will require that new/redeveloped impervious surface is treated and controlled prior to discharge within Town receiving waters. In addition, projects that exceed one acre of disturbance but do not exceed the minimum threshold for a State post-construction permit will be subject to regulatory requirement through the Town. The framework for identifying projects, reviewing and assessing jurisdiction, and inspecting the development will be developed as part of the Town's MS4 authorization.

Pollution Prevention/ Good Housekeeping for Municipal Operations

BMP 6-1 Describe operation and maintenance program for reducing pollutant runoff from MS4 operations. –

The Town of Rutland does not presently have an operation and maintenance (O&M) plan for reducing runoff from MS4 operations within the Moon Brook watershed. The Town will develop an O&M plan that will at a minimum include a Winter Highway Maintenance policy, construction and maintenance practices for back roads, training for personnel, and inspection procedures and schedules for the stormwater management system. The focus of this plan will be within the Moon Brook watershed but it is the intent to implement this plan throughout the Town.

BMP 6-1a New construction and land disturbance - New construction and land disturbance associated with municipal operations shall be addressed through the provisions of MCM#4 and #5 of this permit.

- BMP 6-1b Maintenance of fleet and buildings, all municipal garages, parks, open space, construction and maintenance practices for gravel roads, snow disposal and storm water systems – See BMP 6-1
- BMP 6-1c Training, maintenance schedules, and inspection procedures for long-term structural controls – See BMP 6-1
- BMP 6-1d For municipal facilities where fertilizers are applied, prohibit the use of fertilizers containing phosphorus unless warranted by a soil test – The Town does not have municipal facilities within the Moon Brook watershed. The fertilizer policy for the municipal facilities outside of the Moon Brook watershed will nonetheless be reviewed and this BMP will be complied with under this MS4 authorization.
- BMP 6-2 For municipal garages, an MS4 may participate in ANR’s Municipal Compliance Assistance Program – The Town does not have municipal facilities within the Moon Brook watershed but will consider participating in ANR’s Municipal Compliance Assistance Program for the municipal yard area.
- BMP 6-3 Provide a list of all industrial facilities that the MS4 owns or operates that are subject to the MSGP – Currently there are none.

Rationale

The BMP’s identified under this minimum control measure are aimed at minimizing pollutant discharge from municipal operations as well as improving maintenance of the public stormwater system. The Town intends to develop and O&M plan to serve the entire Town including the areas inside of the regulated area (the Moon Brook watershed). In addition, the Town will also evaluate conditions at the Town facility outside of the Moon Brook watershed to improve management of runoff and reduce runoff pollution from that facility.

Appendix A – Regional Stormwater Education Program MOU

Appendix B – Rutland County Stream Team MOU

Appendix C– Moon Brook Flow Restoration Plan