



Table of Contents

Table of Contents	Pg I
Permit Coverage:	Pg 1
Minimum Control Measures	
1. Public Education and Outreach on Stormwater Impacts:	Pg 1
2. Public Involvement/Participation	Pg 2
3. Illicit Discharge Detection and Elimination	Pg 3
4. Construction Site Stormwater Runoff Control	Pg 4
5. Post-Construction Stormwater Management for New Development and Redevelopment	Pg 5
6. Pollution Prevention/ Good Housekeeping for Municipal Operations	Pg 6
Signature Page	Pg 9
Attachments:	
Attachment 1 Regional Stormwater Education Program (RSEP) MOU	Pg 10
Attachment 2 Chittenden County Stream Team (CCST) MOU	Pg 28
Attachment 3 Milton DPW Specifications, Section 600, Erosion Control Specifications	Pg 47
Attachment 4 Milton DPW Specifications, Section 1400, Storm Drainage	Pg 60

Town of Milton Stormwater Management Plan

The following Stormwater Management Plan addresses the six minimum measures that a Municipal Separate Storm Sewer System (MS4) owner must comply with as part of the National Pollutant Discharge Elimination System (NPDES) General Permit 3-9014 (2012) for Stormwater Discharges from Small MS4's.

Permit Coverage:

This general permit covers:

1. In accordance with 40 CFR §122.32(a)(1), small MS4s in Vermont urbanized areas (UA) as determined by the Bureau of the Census in the 2000 Census or any subsequent decennial census; and
2. Small MS4s in the watersheds of stormwater-impaired waters as determined by the Secretary which are located fully or partially in a Vermont urbanized area, and
3. Small MS4s in such areas as defined by the Secretary when designating a small MS4 to be covered under this permit pursuant to 40 CFR 123.35(b).

Section III of the Permit requires that the MS4 develop and maintain a Stormwater Management Plan (SWMP) that provides measurable goals for the development and implementation of the six minimum control measures described herein.

Minimum Control Measures;

1. Public Education and Outreach on Stormwater Impacts:

To meet the requirements of Minimum Measure #1, Public Education and Outreach on Stormwater Impacts, the Town will participate in the regional stormwater education program (RSEP) described in the March 10, 2013 memorandum of understanding (MOU) between the designated MS4s, the Chittenden County Regional Planning Commission and the Vermont Agency of Natural Resources (Attachment 1).

In addition to the RSEP, the Town has several other avenues for public outreach regarding stormwater quality. Currently the Town maintains its own web site. In 2013 the Town changed and upgraded its website in order to make it more useful to the public. Materials relevant to local stormwater management information are to be included on the new website.

The Town also has included educational materials on stormwater quality in the Public Works Specifications that were adopted by the Select Board on September 12, 2002, Amended May 19, 2008 and received a Technical update on December 15, 2010.

The materials include a manual titled Best Management Practices for Stormwater Control and Watercourse Buffers and a manual on Best Management Practices for Erosion and Sediment Control. The Stormwater Control and Watercourse Buffers manual establishes priority watersheds in the Town of Milton based on the potential for stormwater impact, in particular Mallets Creek. The focus of the manuals is to provide homeowners and small scale developers with information that is useful in order to reduce the impact their property may have on stormwater quality, especially in the priority watersheds.

2. Public Involvement/Participation

To meet the requirements of Minimum Measure 2, Public Involvement/Participation, the Town will participate in the Chittenden County Stream Team (CCST) described in the March 10, 2013 memorandum of understanding (MOU) between the designated MS4s, the Chittenden County Regional Planning Commission and the Vermont Agency of Natural Resources (Attachment 2).

The Town of Milton will implement a public involvement/participation program, which at a minimum, complies with State and local public notice requirements and includes a citizen stormwater advisory panel, a continuing storm drain stenciling project, and sponsorship of a periodic community stream corridor clean-up days.

Citizen Stormwater Advisory Panel. The Town of Milton currently has a volunteer Conservation Commission that was formed to develop management plans for municipal lands. This group will also function as the Citizen Stormwater Advisory Panel and serve as a public forum to discuss stormwater related issues and organize events related to stormwater education. The Conservation Commission meets monthly and is moderated by the Town Planner.

Storm Drain Stenciling Project. The Town of Milton will implement a storm drain stenciling project. The type of marker will be determined and every year the storm drains within the Urbanized Area will be marked. The group responsible for marking storm drains will be determined and may include the Town Highway Dept., volunteers, interns, those that owe community service hours to the Town, or some other civic organization. The Town of Milton Public Works Specifications requires all new storm drains to be marked.

Sponsorship of Stream Corridor Clean-Up. The Town of Milton has a Green-Up Day Committee that organizes volunteers to clean up public right-of-way every spring. In addition to public right-of-way the committee will target clean-up efforts along the Lamoille River, Mallets Creek, and other unnamed tributaries within the Town that have public access.

3. Illicit Discharge Detection and Elimination

To meet the permit requirement the Town will develop, implement and enforce a program to detect and eliminate illicit discharges into the MS4. This program will be coordinated with Vtrans through the US7 corridor. The Town will consider the State Illicit Discharge and Elimination manual while developing the program.

A geographic information system map of stormwater structures within the Town of Milton is currently under development by the Chittenden County Regional Planning Commission. The map will include data from the State's stormwater permits, the Town's culvert inventory, orthoimagery to be collected in 2013, and groundtruthing by the RPC and Town staff. Watersheds most susceptible to stormwater degradation have been prioritized in the Town of Milton Manual of Best Management Practices for Stormwater Control and Watercourse Buffers. This work will be delineated on the stormwater system map. As part of site plan and subdivision review, the Town requests State stormwater permits and record drawings of all infrastructure constructed within the Town. The stormwater system map will be updated annually based on permits and record drawings. The Town also encourages the State to send copies all new stormwater permits to the Town.

New infrastructure is inspected by the Town Engineer and Zoning Administrator to insure compliance with permit conditions and accepted plans. The Town also is in the process of developing a GIS based infrastructure management system in conjunction with the Chittenden County Municipal Planning Organization. The Town will incorporate the stormwater system map into this GIS based inventory. It is our hope to inventory infrastructure on an annual basis using a summer intern program through the Chittenden County Regional Planning Commission (CCRPC).

A program for stormwater system monitoring will be developed based on structures identified on the stormwater system map. This program will include visual inspection and recording of catch basin conditions, which currently occurs on an annual basis as part of the Town catch basin maintenance program. It will also include prioritization of system outfalls based on land use susceptibility to illicit discharge (density of onsite disposal systems, industrial activity, etc.). Catch basin maintenance will be prioritized based on the percent of sediment buildup in the sump. Catch basins will be cleaned when 50% or more of the sump is filled.

The Town will use a variety of techniques to trace the origin of illicit discharges. Specific techniques may vary depending on circumstances such as the type of contaminate, the location of the discharge, amount of flow, etc. The Town may

use techniques such as dye tracing and video inspection to trace discharges. The Town owns a sewer camera and video recorder for this purpose.

The Town of Milton has enacted an ordinance that, to the extent allowable under law, prohibits non-stormwater discharges into the storm sewer system. The Town's existing wastewater ordinance prohibits illicit connection from sanitary sewers to storm drainage systems; provides authority to inspect properties for illicit discharges, and establishes penalties and enforcement options. Enforcement will be the responsibility of the Town Health Officer. The Town currently has an ordinance requiring clean up of dog excrement from public land and right-of-way.

Educational outreach associated with the prevention and elimination of illicit discharges will start with Town maintenance employees. Employees will be made aware of the importance of recognizing and mitigating illicit discharges as part of their daily maintenance routines. Public Works employees will attend the municipal employee training program scheduled in the spring of 2014. Finally, the Town will work with Chittenden County Solid Waste District to make sure that the roving hazardous waste drop-off is appropriately advertised when it visits the Milton transfer station.

4. Construction Site Stormwater Runoff Control

The Vermont Department of Conservation regulates construction site runoff for disturbances greater than one acre. The Town of Milton has an established program to reduce pollutants in stormwater runoff caused by construction activities. The program is part of the Public Works Specifications that were adopted by ordinance on September 12, 2002. The Town's program will assist the Agency's regulation for disturbance greater than or equal to one acre, and with this program the Town seeks to qualify for coverage under general permit 3-9020 (2008). The Public Works Specification Section 600 Erosion Control Specifications require that all work for site disturbances equal to greater than one acre shall comply with the latest edition of the State of Vermont Environmental Protection Rules and Erosion and Sediment Control Regulations and the latest Town of Milton ordinances and specifications. Section 600 is provided as Attachment 3. All work for site disturbances of less than one acre should comply with the Town of Milton Public Works Specification - Best Management Practices for Erosion and Sediment Control as described below. These requirements are reviewed by the Town Engineer and Planning Department as part of the site plan and subdivision permits process. The Town Engineer actively enforces these requirements for both Town and developer projects. This process will be extended to building permits, which will be reviewed and enforced by the Zoning Administrator.

If the Town of Milton is aware of a violation of the Town of Milton Public Works Specifications and/or a State of Vermont construction site stormwater runoff control permit, the violator will be verbally notified of the necessary corrective

action. If the action is not taken a written notification will be sent via certified mail. If the violation continues, the appropriate State of Vermont permit administrator will be notified. The Town of Milton erosion control specifications establish that fines for non-compliance can be assessed equal to 50% of any fine assessed and collected by the State of Vermont.

In addition to the Erosion Control Specifications the Town has developed a manual of Best Management Practices for Erosion and Sediment Control and a Manual of Best Management Practices for Stormwater Control and Watercourse Buffers. The objective of these manuals is to provide guidance to town public works personnel, developers, contractors and homeowners for incorporating Best Management Practices in design, construction, and maintenance activities. The manuals were developed after careful review of existing State of Vermont Erosion and Sedimentation Control Manual and manuals from other agencies. These manuals are not a specification, but instead serve as guidance for those construction practices that disturb less than one acre and will be included in the new Town website.

5. Post-Construction Stormwater Management for New Development and Redevelopment

The Vermont Department of Environmental Conservation is required to regulate post-construction stormwater runoff from activities that result in impervious surface greater than one acre . To qualify for coverage under general permit #3-9014 the Town must develop, implement, and enforce a program to reduce pollutants in post-construction stormwater runoff from activities that result in a land disturbance of greater than or equal to one acre and that are not subject to the Agency's regulation (one acre impervious). The Town of Milton has an established program to address post-construction stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre. The program is described in Public Works Specification Section 1400 Storm Drainage adopted by ordinance on September 12, 2002. This specification requires that all work for site disturbances equal to greater than one acre shall comply with the latest edition of the State of Vermont Environmental Protection Rules and Stormwater Regulations and the latest Town of Milton ordinances and specifications. Section 1400 is provided as Attachment 4. All work for site disturbances of less than one acre should comply with the Town of Milton Public Works Specification - Best Management Practices for Erosion and Sediment Control and Stormwater and Watercourse Buffers as described below. The requirements of these specifications are reviewed as part of the site plan and subdivision permits process. The Town Engineer and Planning Department actively enforces these requirements for both Town and developer projects. This process will be extended to building permits, which will be reviewed and enforced by the Zoning Administrator.

The Town of Milton will assist the Agency in regulation of activities that require a State stormwater permit. If the Town is aware of a violation of the Town of Milton Public Works Specifications and/or a State of Vermont stormwater permit, the violator will be verbally notified of the necessary corrective action. If the action is not taken a written notification will be sent via certified mail. If the violation continues, the appropriate State of Vermont permit administrator will be notified. The Town of Milton storm drainage specifications establish that fines for non-compliance can be assessed equal to 50% of any fine assessed and collected by the State of Vermont.

In addition to the Storm Drainage Specification the Town has developed a manual of Best Management Practices for Erosion and Sediment Control and a Manual of Best Management Practices for Stormwater Control and Watercourse Buffers. The object of these manuals is to provide guidance to town public works personnel, developers, contractors and homeowners for incorporating Best Management Practices in design, construction, and maintenance activities. The manuals were developed after careful review of existing State of Vermont Erosion and Sedimentation Control Manual and manuals from other agencies. These manuals are not a specification, but instead serve as guidance to prevent or minimize post-construction water quality impacts.

Operation and maintenance plans for stormwater systems will be required on construction plans. Maintenance of stormwater systems outside the public right-of-way will be required in homeowner association covenants. These covenants are reviewed as part of the subdivision plan review process by the Planning Department.

Stormwater systems constructed within the public right-of-way will be maintained by the Town of Milton Highway Department. The Highway Department maintains roadside ditches, catch basins, storm sewers, etc. on an ongoing basis. A program for stormwater system monitoring will be developed based on structures identified on the stormwater system map. This program will include visual inspection and recording of catch basin conditions, which currently occurs on an annual basis as part of the Town catch basin maintenance program. Catch basin maintenance will be prioritized based on the percent of sediment buildup in the sump. Catch basins will be cleaned when 50% or more of the sump is filled. The Town intends to purchase a vacuum truck for this purpose. The vacuum truck will also be used for maintaining stormwater ponds where practical.

Within two years of receiving authorization under the 2012 MS4 permit the Town will develop a program to identify opportunities for and provide technical assistance related to low impact design Best Management Practices (BMP's) to landowners in the Town of Milton.

6. Pollution Prevention/ Good Housekeeping for Municipal Operations

The Town of Milton has several operation and maintenance programs that have procedures for preventing or reducing pollutant runoff. These programs and procedures are described below. The Town has two facilities that will be subject to the Agency's General Permit 3-9003 Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activity, they are: Town of Milton Highway Garage, Town of Milton Wastewater Treatment Facility. The WWTF has reconstructed in 2007, and the Highway Garage is scheduled for reconstruction in the near future. The WWTF is a sequential batch reactor facility with ultraviolet light disinfection..

The Town of Milton will participate in the Agency's Municipal Compliance Assistance Program.

Municipal Operation and Maintenance Programs

Winter Highway Maintenance - The Town's snow removal procedures are designed to minimize the sand and salt that may ultimately enter receiving waters. Milton does not have a "bare roads" policy. The application of salt is adjusted for specific weather conditions and specific locations in Town. Salt is typically only applied to the town core area and major intersections. The amount of salt used during a storm is adjusted based on weather conditions that are suitable for naturally melting snow and ice. The use of sand is limited to rural roads in the community. The application is typically limited to critical areas such as steep grades, sharp corners, and roadway intersections. The Town does not operate snow storage areas. Salt is stored in an enclosed facility and sand is stored in an open pile behind the highway maintenance facility. In the interim period prior to the construction of the new highway facility the yard catch basin will be appropriately protected from winter sand.

Summer Highway Maintenance - The Town contracts out or partners with neighboring communities, the street sweeping every spring. Sweeping occurs on streets within the town core and major intersections. Stormwater systems constructed within the public right-of-way will be maintained by the Town of Milton Highway Department. The Highway Department maintains roadside ditches, catch basins, storm sewers, etc. on an ongoing basis. A program for stormwater system monitoring will be developed based on structures identified on the stormwater system map. This program will include visual inspection and recording of catch basin conditions, which currently occurs on an annual basis as part of the Town catch basin maintenance program. Catch basin maintenance will be prioritized based on the percent of sediment buildup in the sump. Catch basins will be cleaned when 50% or more of the sump is filled. The Town intends to purchase a vacuum truck for this purpose. The vacuum truck will also be used to maintain stormwater ponds where practical. In 2004 the Town purchased a roadside mower to maintain drainage ditches in the public right-of-way. Drainage ways and roads are graded on an as needed basis. Chloride is used for dust control

on gravel roads on an as needed basis. Solid waste is removed from the public right-of-way annually as part of Green-Up Day.

Vehicle Maintenance - The Town of Milton performs a majority of its fleet maintenance including routine washing, and fueling, but does contract out work on an as needed basis. Highway dump trucks are typically stored in an enclosed facility. Other highway maintenance equipment is typically stored outside. The storage facility has floor drains and a wash bay that is connected to an oil and grease/water separator. The oil grease separator will be inspected on an annual basis. The fueling facility is served by one above ground storage tank with berms around the perimeter.

Building and Grounds Maintenance - All fertilizers and pesticides that are applied to Town owned grounds are in compliance with state and federal guidelines regulating the use of the chemicals. The majority of the Town facilities are located on relatively flat ground and runoff is typically infiltrated into predominately sandy soils.

Water and Wastewater System Maintenance – The Town of Milton operates a wastewater treatment plant and collection system and a water distribution system. These facilities undergo inspection by the Wastewater Management and Water Supply Divisions of the DEC every three to five years. The wastewater treatment plant is permitted for discharge under NPDES permit # VT0100684. All drains from the treatment plant facility go directly to the aerated lagoon treatment system. The Town does not have formalized rules for handling hazardous waste; however, all chemical MSDS sheets are kept current and onsite. All Town owned wastewater pumping stations are equipped with alarms and auxiliary power or adequate storage to prevent overflow conditions.

Solid Waste – The Town owns a closed landfill that is in compliance with a Landfill Closure Extension Order from the DEC, Waste Management Division, dated December 30, 1992. The Chittenden County Solid Waste District operates a transfer station in the Town of Milton that includes recycling and hazardous waste drop-off (CWSD Rover).

New Construction – New Construction and land disturbance associated with municipal operations will be addressed through the provisions of Minimum Measure #4.

Signatures;

All Notices of Intent, SWMP's, reports, certifications, or required information submitted to the Agency, or that this permit requires to be maintained shall be signed by a principle executive officer, ranking elected official or other duly authorized employee consistent wit 40 CFR § 122.22(b) and certifies as follows:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system design to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name: Brian Palwin ~~Touch Manager~~ Title: Touch Manager
Signature:  Date: 5/21/13

ATTACHMENT 1

**Regional Stormwater Education Program (RSEP)
Memorandum of Understanding (MOU)**

ATTACHMENT I

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**CHITTENDEN COUNTY
REGIONAL STORMWATER EDUCATION PROGRAM
MEMORANDUM OF UNDERSTANDING
FOR THE PERIOD MARCH 10, 2013 THROUGH MARCH 9, 2018**

This Memorandum of Understanding (“MOU”) establishes an agreement among the Parties (as specified in Section 1) for a group of Municipal Separate Storm Sewer Systems (“MS4s”) to contract to operate a Regional Stormwater Education Program (“Program”) that conforms with and satisfies the relevant requirements regarding Minimum Control Measure One (“Public Education and Outreach”) of the Phase II NPDES Permit for Program Years 2013--2018), as established in General Permit 3-9014 (2012) (MS4 Permit”) as continued or renewed by the Vermont Department of Environmental Conservation (“VTDEC”).

1. **Parties to the MOU** – The parties to this agreement are:

- a. **MS4s** – the undersigned municipalities and other entities and any other MS4 that may execute this agreement following approval of that MS4’s inclusion as a party to this MOU by a 2/3rds majority of the voting members of the Steering Committee and
- b. **Lead Agency** – the Chittenden County Regional Planning Commission (“CCRPC”), unless a majority of the Steering Committee favors a different lead agency or the CCRPC no longer wishes to act as the Lead Agency.

2. **Steering Committee**

- a. **Composition** – The voting members of the Steering Committee shall consist of one representative from each of the MS4s who are signatory to this Agreement as designated by each MS4. The voting members may, by a 2/3rds majority vote, invite one or more other organizations to each appoint a representative to serve as a new member, a non-voting member or as an advisory member of the Steering Committee. Such organizations may include, but not be limited to, the Lake Champlain Committee, the Champlain Water District, the Chittenden Solid Waste District, other MS4s, or other municipalities.
- b. **Duties** – The voting members of the Steering Committee shall advise the Lead Agency on the development and performance of Program Services and on matters bearing on the administration of this agreement. The Steering Committee will endeavor to meet, quarterly or more often as needed.

3. **Lead Agency**

- a. **Duties** – The Lead Agency will provide Administrative Services in terms of administering this MOU and agreements with contractors (including executing contracts, receiving and disbursing funds, and monitoring the provision of services) on behalf of the MS4s. The Lead Agency shall not provide services related to this program for entities outside of the MS4 signatories. Additional coordination shall be only at the direction of the Steering Committee or its chair. The Lead Agency may also provide other Non-Administrative services (including, but not limited to, public education and outreach activities, public relations, grant writing, web site editing, etc.) as

directed by the Steering Committee and at a level consistent with each year's Program Budget as described in Section 6.a. The Lead Agency is not a guarantor that services will be performed.

- b. **Compensation** – The MS4s agree to compensate the Lead Agency for the actual costs of performing Administrative and Non-Administrative duties defined in Section 3.a. Compensation shall be for hourly wages, appropriate overhead and expenses. Compensation for Administrative Duties shall not exceed ten (10%) percent of the Program Budget as specified in Section 6 without prior approval of a simple majority of the Steering Committee present at the time of the vote or by email response. Personnel costs for Lead Agency staff engaged in Administrative or Non-Administrative Duties shall be calculated at a rate of salary plus fringe. The Lead Agency shall submit invoices no more frequently than monthly. Invoices shall provide a description of work tasks completed by the Lead Agency for that billing period with sufficient detail to the satisfaction of the steering committee.
4. **Selection of Contractors** – In general, the Steering Committee shall competitively bid for contract(s) for Program Services that collectively satisfy the requirements for Minimum Control Measure One (“Public Education and Outreach”) of the Phase II NPDES Permit for Program Years 2013 – 2018 as established by the MS4 Permit and as defined in Section 5. All contracts shall be awarded based on qualifications, price, and the ability of the entity to provide services that meet the relevant MS4 Permit requirements. However, upon consent of the majority of the voting members of the Steering Committee present, the RSEP may waive the bid process for select contracts. Contracts may be up to 5 years in length and shall include, but not be limited to, language specifying the right of the RSEP to cancel a contract if services are not being adequately provided and language specifying that payments to contractors shall be made only for services rendered.
5. **Program Services** – The Steering Committee, assisted by the Lead Agency and contractors, will implement a media advertising campaign and provide stormwater education services that satisfy the requirements of Minimum Control Measure One (“Public Education and Outreach”) of the Phase II NPDES Permit for Program Years 2013 – 2018), as established by the MS4 Permit, in accordance with Section 5.a..
 - a. **Program Content** – The Program Content for each Program Year will be as defined in the Communications Plan for that year as approved by a majority of the Steering Committee. Annual Program elements will include, at a minimum: 1) operation of the Program’s website, www.smartwaterways.org or its equivalent, 2) the hosting of occasional educational seminars open to the public concerning stormwater pollution prevention and related topics, and 3) advertisements in various media.
6. **Program Budget, Costs, and Payments**
 - a. **Program Budget**
 - 1) The annual Program Budget shall consist of the sum of the annual \$5,000 payments for a given Program Year made by participating MS4s plus any Public Participation payment as described below in Sections 6b and 6c, respectively.
 - 2) Prior to March 1st of every year, the Steering Committee shall adopt a Program Budget governing expenditures for the subsequent program year. Budget categories shall include, but not be limited to: Lead Agency Administrative Duties, Lead Agency Non-Administrative Duties, Media Advertising Purchases, Media Marketing Consulting Services, and Other Contractual Services.

- b. **Participating MS4 Maximum Annual Costs and Payments** – Except as otherwise provided for in this section or in section 12c, each MS4 that is a party to this MOU shall by July 30 of each program year make a single annual payment of \$5,000 to pay for Program Services (as defined in Section 5) and Lead Agency services (as defined in Section-3.a.). In the event that costs are less than anticipated or that grants or other funding sources become available, a majority of the voting members of the Steering Committee may decide to reduce each MS4’s payment by an equal amount. The Steering Committee may require additional dues from new members joining after March 9, 2013 to help defray program development costs incurred since the Program’s inception.
 - c. **Public Participation Payments** – Any payments made by an MS4 (regardless of whether or not the MS4 is a Party to this MOU) to the Lead Agency as a part of compliance with Section 4.2.2.1 of the MS4 Permit (governing payments in lieu of undertaking specific Public Involvement/Participation Activities) shall pay for Program Services as defined in Section 5.
 - d. **Other Funds** – Any funds made available to the Program other than Participating MS4 Costs and Payments (pursuant to Section 6.b.) or Public Participation Payments (pursuant to Section 6.c.) shall be dedicated to reducing the annual costs of each MS4 participating in the Program, except as a majority of the voting members of the Steering Committee may decide.
 - e. **Excess Funds** – Any funds remaining at the end of a Program Year, less any earmarked set aside funds (such as survey funds, etc), shall be carried over to the next Program Year, unless a 2/3^{rds} majority of the voting members of the Steering Committee decides otherwise. Following the payment for all Program Services and Lead Agency services at the end of Program Year 2018, any funds remaining shall be carried forward for successive years where program services continue under successive agreements. Any funds refunded to the MS4s participating in this MOU shall be refunded based upon a prorated portion depending upon the number of months of participation by that MS4, except that any additional payments made by a member beyond its \$5,000 annual payments shall be first refunded in full, except for payments made in lieu of performance of Minimum Measure #2.
 - f. **In-Kind Services** – Program Services (as defined in Section 5) that are provided by a member may be used to offset the Participating MS4 Costs and Payment of that member by such amount as may be determined by a majority of the voting members of the Steering Committee.
7. **Contracts Required** – All contracts with Contractors to provide Program Services shall be conditioned upon approval by a 2/3^{rds} majority of the voting members of the Steering Committee.
8. **Withdrawal Prohibited** – No MS4 that is a party to this MOU may withdraw from this MOU, except for early termination as defined in Section 9 of this MOU. Early termination of a signatory may be considered by the Steering Committee with 12 months’ notice of withdrawal for cause and with a 2/3^{rds} majority approval of the voting members of the Steering Committee
9. **Early Termination** – This MOU shall become null and void with no further obligation of the parties if:
- a. a majority of the voting members of the Steering Committee does not approve one or more contracts for the provision of Program Services within 90 days after execution of this MOU or

- b. VTDEC determines that the Program outlined in this MOU does not meet the requirements for minimum control measure #1 ("Public Education and Outreach") of the Phase II NPDES Permit for Programs Years 2013 – 2018) and the parties to this MOU are unable to craft a Program to satisfy VTDEC.
 - c. alternate contractual arrangements for MM1 compliance are developed and a vote to dissolve this MOU is approved by a 2/3rds majority approval of the voting members of the Steering Committee.
10. **Automatic Termination** – This MOU will terminate at the end of Program Year 2018.
11. **Amendment** – Unless a specific section of this MOU provides otherwise, this MOU may be amended only upon the unanimous consent of all of the Parties.
12. **Adding New MS4 Entities** – New MS4 entities shall be allowed to become party to this MOU with a 2/3rds majority approval of the voting members of the Steering Committee. The new party agrees to:
- a. pay for costs directly associated with re-evaluation and reconfiguration of the Program's existing Communications Plan to ensure that planned media advertising purchases appropriately cover the geographic area served by their MS4, unless waived by a 2/3rds majority approval of the voting members of the Steering Committee. The new MS4 shall coordinate this work with the Lead Agency and RSEP Chair using existing RESP program contractors.
 - b. The new MS4 obtains approval from the permitting agency indicating that their participation in the established Program would satisfy their requirements under minimum control measure #1 ("Public Education and Outreach") of the Phase II NPDES Permit for Programs Years 2013 – 2018)
 - c. The new MS4 makes five additional annual payments of \$ 500.00 to the Program in recognition of Program development costs incurred since the program's inception.
13. **Counterparts** – This MOU may be executed in multiple counterparts, each of which is deemed an original and all of which constitute one and the same document. Each such counterpart may be a facsimile copy and such facsimile copy shall be deemed an original.

Signature of Lead Agency



Charles Baker, Executive Director
Chittenden County Regional Planning Commission

5/1/13

Date

Signatures of Members


Gene Richards, Interim Director of Aviation
Burlington International Airport

3-26-13
Date

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

Date

Bryan K. Osborne, Director of Public Works
The Town of Colchester

Date

Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
The Town of Essex

Date

Authorized Signer
The Village of Essex Junction

Date

Brian M. Palaia, Town Manager
The Town of Milton

Date

Dean Pierce, Director of Planning and Zoning
The Town of Shelburne

Date

Bob Rusten, Interim Temporary City Manager
The City of South Burlington

Date

Brian Searles, Secretary of Transportation
The Vermont Agency of Transportation

Date

Linda Seavey, Director, Campus Planning Services
The University of Vermont

Date

Richard McGuire, Town Manager
The Town of Williston

Date

Katherine Decarreau, City Manager
The City of Winooski

Date

Signatures of Members

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Burlington International Airport

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

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The Vermont Agency of Transportation

Linda Seavey, Director, Campus Planning Services
The University of Vermont

Richard McGuire, Town Manager
The Town of Williston

Katherine Decarreau, City Manager
The City of Winooski

Date

3/27/13
Date

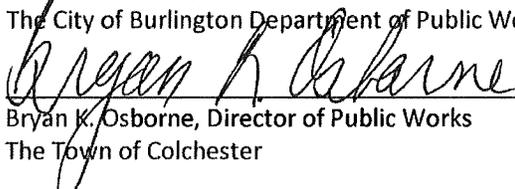
Signatures of Members

Gene Richards, Interim Director of Aviation
Burlington International Airport

Date

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

Date



Bryan K. Osborne, Director of Public Works
The Town of Colchester

4/23/13

Date

Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
The Town of Essex

Date

Authorized Signer
The Village of Essex Junction

Date

Brian M. Palaia, Town Manager
The Town of Milton

Date

Dean Pierce, Director of Planning and Zoning
The Town of Shelburne

Date

Bob Rusten, Interim Temporary City Manager
The City of South Burlington

Date

Brian Searles, Secretary of Transportation
The Vermont Agency of Transportation

Date

Linda Seavey, Director, Campus Planning Services
The University of Vermont

Date

Richard McGuire, Town Manager
The Town of Williston

Date

Katherine Decarreau, City Manager
The City of Winooski

Date

Signatures of Members

Gene Richards, Interim Director of Aviation
Burlington International Airport

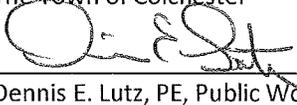
Date

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

Date

Bryan K. Osborne, Director of Public Works
The Town of Colchester

Date



Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
The Town of Essex

4/18/13

Date

Authorized Signer
The Village of Essex Junction

Date

Brian M. Palaia, Town Manager
The Town of Milton

Date

Dean Pierce, Director of Planning and Zoning
The Town of Shelburne

Date

Bob Rusten, Interim Temporary City Manager
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Authorized Signer
The Village of Essex Junction

4/24/13

Date

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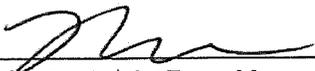
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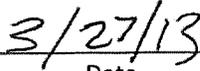
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3/28/13
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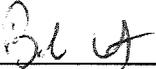
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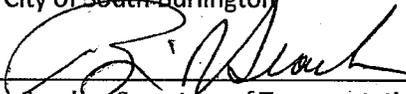
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Brian Searles, Secretary of Transportation
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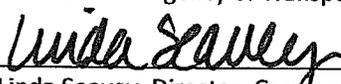
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_____ Richard McGuire, Town Manager The Town of Williston	_____ Date
_____  Katherine Decarreau, City Manager The City of Winooski	_____ 4-11-13 Date

ATTACHMENT 2

**Chittenden County Stream Team (CCST)
Memorandum of Understanding (MOU)**

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ATTACHMENTS

Chittenden County Sheriff's Office (CCSO)
Memorandum of Understanding (MOU)

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**CHITTENDEN COUNTY
REGIONAL STORMWATER PUBLIC INVOLVEMENT AND
PARTICIPATION PROGRAM
MEMORANDUM OF UNDERSTANDING
FOR THE PERIOD JULY 2011 THROUGH JUNE 2016**

This Memorandum of Understanding ("MOU") establishes an agreement among the Parties (as specified in Section 1) for a group of Municipal Separate Storm Sewer Systems ("MS4s") to contract to operate a Regional Stormwater Public Involvement and Participation Program ("Program") that conforms with and satisfies the relevant requirements regarding Minimum Control Measure Two ("Public Involvement and Participation") of the Phase II NPDES Permit for Program Years 2011 -2016), as established in General Permit 3-9014 (MS4 Permit") as continued or renewed by the Vermont Department of Environmental Conservation ("VTDEC").

1. **Parties to the MOU** – The parties to this agreement are:
 - a. **MS4s** – the undersigned municipal MS4s and non-traditional MS4s and any other MS4 that may execute this agreement following approval of that MS4's inclusion as a party to this MOU by a majority of the voting members of the Stream Team Steering Committee as defined in Section 2.a. below and
 - b. **Lead Agency** – the Chittenden County Regional Planning Commission ("CCRPC"), unless a majority of the Steering Committee favors a different lead agency or the CCRPC no longer wishes to act as the Lead Agency and withdraws its services pursuant to Section 9 below.

2. Steering Committee

- a. **Composition** – The voting members of the Steering Committee shall consist of one representative from each of the MS4s who are full level signatory members to this Agreement as designated by each MS4. The voting members may, by a majority vote, invite organizations to appoint a representative to serve as a non-voting, advisory member of the Steering Committee.
- b. **Duties** – The voting members of the Steering Committee shall advise the Lead Agency on the development and performance of Program Services and on matters bearing on the administration of this agreement. The Steering Committee will attempt to meet quarterly or more often as needed.

3. Lead Agency

- a. **Duties** – The Lead Agency will provide Services in terms of administering this MOU and agreements with contractors (including executing contracts, receiving and disbursing funds, and monitoring the provision of services) on behalf of the MS4s. The Lead Agency may also provide other Services (including, but not limited to, public involvement and participation activities, public relations, grant writing, etc.) as directed by the Steering Committee and at a level consistent with each year's Program Budget as described in Section 6.a.

b. **Compensation** – The MS4s agree to compensate the Lead Agency for the actual costs of performing Duties defined in Section 3.a. Compensation for Duties shall not exceed ten (10%) percent of the Program Budget as specified in Section 6 without prior approval of a majority of the Steering Committee. Personnel charges for Lead Agency staff shall be calculated at a rate of salary plus fringe.

4. **Selection of Primary and Sub-Contractors** – In general, the Steering Committee shall competitively bid for contract(s) for Program Services that collectively satisfy the requirements for Minimum Control Measure Two (“Public Involvement and Participation”) of the Phase II NPDES Permit for Program Years 2011 – 2016 as established by the MS4 Permit and as defined in Section 5. All contracts shall be awarded based on qualifications, price, and the ability of the entity to provide services that meet the relevant MS4 Permit requirements. Contracts may be up to 5 years in length and shall include, but not be limited to, language specifying the right of the Committee to cancel a contract if services are not being adequately provided and language specifying that payments to contractors shall be made only for services rendered.

Contracting for services under this MOU will comply with the Fair Employment Practices and Americans with Disabilities Act: the Steering Committee agree to comply with the requirement of Title 21 V.S.A Chapter 5, Subchapter 6, relating to fair employment practices, to the full extent applicable. The Steering Committee shall also ensure, to the full extent required by the Americans with Disabilities Act of 1990 that qualified individuals with disabilities receive equitable access to the services, programs, and activities provided by the Steering Committee under this MOU. This provision will also be included in all contracts and subcontracts executed under this MOU involving state or federal funds.

The Steering Committee recognizes the important contribution and vital impact which small businesses have on the state’s economy. In this regard, the Steering Committee will ensure a free and open bidding process that affords all businesses equal access and opportunity to compete. The Steering Committee also recognizes the existence of businesses owned by minorities and women and will make a good faith effort to encourage these firms to compete for contracts involving state or federal funds.

5. **Program Services** – The Steering Committee, assisted by the Lead Agency and contractor(s), will implement a public involvement and participation campaign known as the Chittenden Country Stream Team (CCST) that satisfies the relevant requirements of Minimum Control Measure Two (“Public Involvement and Participation”) of the Phase II NPDES Permit for Program Years 2011 – 2016), as established by the MS4 Permit, in accordance with Section 5.a.

- a. **Program Content** – The Program Content for each Program Year will be as approved by a majority of the Steering Committee. Annual Program elements will include, at a minimum:
- i. operation of the Program’s website www.ccstreamteam.org or its equivalent.
 - ii. the hosting and/or organization of workshops, projects and other events to engage the public.

- iii. the recruitment of volunteers to engage in and promote public involvement and participation.
- iv. end of MS4 permit year annual reporting on Minimum Control Measure 2 compliance efforts to the MS4s for inclusion in MS4 annual reports to ANR.

6. **Program Budget, Costs, and Payments**

a. **Program Budget**

- 1. The annual Program Budget shall consist of the sum of the annual \$1,800 payment for each Program Year made by participating MS4s plus any other funds available to the Program by majority vote of the Steering Committee as specified in Section 6.c below. Prior to February of every year, the Steering Committee shall adopt a Program Budget governing expenditures for the subsequent program year. Budget categories shall include, but not be limited to: Lead Agency Duties, Contractual Services and Expenses.

- b. **Participating MS4 Maximum Annual Costs and Payments** – Except as otherwise provided for in this section, each MS4 that is a party to this MOU shall by July 30 of each program year make a single annual payment of \$1,800 to pay for Program Services (as defined in Section 5) and Lead Agency Services (as defined in Section 3.a.). In the event that costs are less than anticipated or that grants or other funding sources become available, a majority of the voting members of the Steering Committee may decide to reduce each MS4's payment by an equal amount or to credit the following Program Year assessment to each MS4. Any MS4 is allowed to join in prior to April 1, 2012 without penalty. The Steering Committee may require additional dues from new members joining on or after April 1, 2012 to help defray program development costs incurred since the Program's inception.

- c. **Other Funds** – Any funds made available to the Program shall be dedicated to reducing the annual costs of each MS4 participating in the Program, except as a majority of the voting members of the Steering Committee may decide.

- d. **Excess Funds** – Any funds remaining at the end of a Program Year shall be carried over to the next Program Year, unless a majority of the voting members of the Steering Committee decides otherwise. Following the payment for all Program Services and Lead Agency Services at the end of Program Year 2016, any funds remaining shall be carried forward for successive years where Program Services continue under successive agreements. Any funds refunded to the MS4s participating in this MOU shall be refunded based upon a prorated portion depending upon the number of months of participation by that MS4, except that any additional payments made by a member beyond its \$1,800 annual payment shall be first refunded in full.

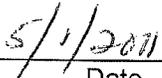
7. **Contracts Required** – All contracts with Contractors to provide Program Services shall be conditioned upon approval by a majority of the voting members of the Steering Committee and consistent with Section 4 above.

8. **MS4 Withdrawal Prohibited** – No MS4 that is a party to this MOU may withdraw from this MOU, except for early termination as defined in Section 10 of this MOU.
9. **Termination of Lead Agency**
The CCRPC or the Steering Committee by a majority vote of its full membership may elect to terminate the Agreement for Lead Agency Services by providing 90 days written notice to the other party.
10. **Early Termination** – This MOU shall become null and void with no further obligation of the parties if:
 - a. a majority of the voting members of the Steering Committee does not approve one or more contracts for the provision of Program Services within 120 days after execution of this MOU or
 - b. VTDEC determines that the Program outlined in this MOU does not meet the relevant requirements for Minimum Control Measure Two (“Public Involvement and Participation”) of the Phase II NPDES Permit for Programs Years 2011 – 2016) and the parties to this MOU are unable to craft a Program to satisfy VTDEC.
11. **Automatic Termination** – This MOU will terminate at the end of Program Year 2016.
12. **Amendment** – Unless a specific section of this MOU provides otherwise, this MOU may be amended only upon the unanimous consent of all of the Parties.
13. **Counterparts** – This MOU may be executed in multiple counterparts, each of which is deemed an original and all of which constitute one and the same document. Each such counterpart may be a facsimile or PDF copy and such facsimile or PDF copy shall be deemed an original.

Signature of Lead Agency



Charles Baker, Executive Director
Chittenden County Regional Planning Commission



Date

Signatures of Members



Robert McEwing, Interim Director of Aviation
The Burlington International Airport

5/3/11
Date

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

Date

Bryan K. Osborne, Director of Public Works
The Town of Colchester

Date

Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
The Town of Essex

Date

David Crawford, Village Manager
The Village of Essex Junction

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Bernard T. Gagnon, Public Works Director
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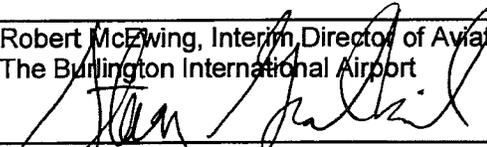
Richard McGuire, Town Manager
The Town of Williston

Date

Katherine R. Decarreau, City Manager
The City of Winooski

Date

Signatures of Members

Robert McEwing, Interim Director of Aviation The Burlington International Airport	Date
	4/15/11
Steven Goodkind, Director of Public Works The City of Burlington Department of Public Works	Date
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Bryan K. Osborne, Director of Public Works The Town of Colchester	Date
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Dennis E. Lutz, PE, Public Works Dir. / Town Engineer The Town of Essex	Date
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David Crawford, Village Manager The Village of Essex Junction	Date
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Brian Palaia, Town Manager The Town of Milton	Date
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Brian Searles, Secretary of Transportation Vermont Agency of Transportation	Date
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Linda Seavey, Director, Campus Planning Services The University of Vermont	Date
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Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
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24 March 2011
Date

David Crawford, Village Manager
The Village of Essex Junction

Date

Brian Palaia, Town Manager
The Town of Milton

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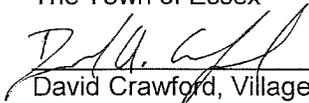
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The Town of Colchester

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David Crawford, Village Manager
The Village of Essex Junction

3/27/2011

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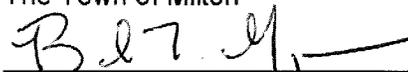
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S. J. Miller

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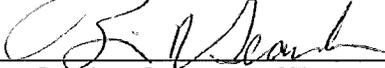
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The City of Winooski

Date

Signatures of Members

Robert McEwing, Interim Director of Aviation
The Burlington International Airport

Date

Steven Goodkind, Director of Public Works
The City of Burlington Department of Public Works

Date

Bryan K. Osborne, Director of Public Works
The Town of Colchester

Date

Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
The Town of Essex

Date

David Crawford, Village Manager
The Village of Essex Junction

Date

Brian Palaia, Town Manager
The Town of Milton

Date

Bernard T. Gagnon, Public Works Director
The Town of Shelburne

Date

Sanford I. Miller, City Manager
The City of South Burlington

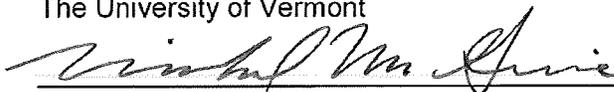
Date

Brian Searles, Secretary of Transportation
Vermont Agency of Transportation

Date

Linda Seavey, Director, Campus Planning Services
The University of Vermont

Date



Richard McGuire, Town Manager
The Town of Williston

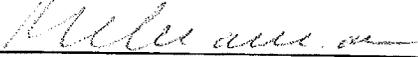
4/4/11

Date

Katherine R. Decarreau, City Manager
The City of Winooski

Date

Signatures of Members

_____ Robert McEwing, Interim Director of Aviation The Burlington International Airport	_____ Date
_____ Steven Goodkind, Director of Public Works The City of Burlington Department of Public Works	_____ Date
_____ Bryan K. Osborne, Director of Public Works The Town of Colchester	_____ Date
_____ Dennis E. Lutz, PE, Public Works Dir. / Town Engineer The Town of Essex	_____ Date
_____ David Crawford, Village Manager The Village of Essex Junction	_____ Date
_____ Brian Palaia, Town Manager The Town of Milton	_____ Date
_____ Bernard T. Gagnon, Public Works Director The Town of Shelburne	_____ Date
_____ Sanford I. Miller, City Manager The City of South Burlington	_____ Date
_____ Brian Searles, Secretary of Transportation Vermont Agency of Transportation	_____ Date
_____ Linda Seavey, Director, Campus Planning Services The University of Vermont	_____ Date
_____ Richard McGuire, Town Manager The Town of Williston	_____ Date
 _____ Katherine R. Decarreau, City Manager The City of Winooski	_____ 3-29-11 Date

ATTACHMENT 3

**Milton DPW Specifications, Section 600,
Erosion Control Specifications**

Town of Milton Public Works Specifications
PART II TECHNICAL SPECIFICATIONS

SECTION 600 EROSION CONTROL SPECIFICATIONS

SECTION 610 GENERAL PROVISIONS

1. Any construction activity that disturbs one (1) or more acres of land, or is part of a larger development plan that will disturb one (1) or more acres, requires coverage under State of Vermont General Permit 3-9020 for Stormwater Runoff from Construction Sites.. Disturbances less than one acre shall comply with the latest Town of Milton ordinances and specifications related to erosion and sediment control and the State of Vermont "Low Risk Site Handbook for Erosion Prevention and Sediment Control".
2. The Developer will submit to the Town Engineer an Erosion and Sediment Control Plan that shall at minimum contain:
 - Name of on-site person responsible for implementation of the plan.
 - Emergency storm response procedures and inspections. The definition of a storm event shall be one inch of precipitation in a twenty-four (24) hour period.
 - Proposed locations for use of silt fence and alternative erosion control devices.
 - Silt fence and silt curtain inspection frequency (minimum weekly) for removal of collected sediment, including how sediment will be removed and where it will be disposed of and stabilized.
 - Temporary mulching procedures for disturbed soils areas.
 - Temporary sediment control at the inlet and outlet of existing and proposed catch basins, and culverts.
 - Dust control procedures for staging areas, stockpile areas, and on haul roads.
 - Stormwater runoff diversions, where needed, and their outlet locations
 - Inspection and maintenance schedules for all soil erosion and water pollution control measures. Inspection and maintenance records to be maintained on site for inspection by Town Engineer or designed representative.
 - The location of all sediment basins used for de-watering any site cofferdams.
2. All areas must have temporary or permanent stabilization within 14 days of initial disturbance.
3. No work shall be performed until all sedimentation and erosion control measures are in place.
4. The discharge of sediment-laden water from the project site is prohibited. The

Town of Milton Public Works Specifications

Town of Milton, upon investigation of a sediment release, will inform the proper permitting authorities. The Town of Milton may assess an unpermitted discharge fine equal to fifty percent (50%) of any fine assessed and collected by the State of Vermont.

5. The Contractor shall install all erosion control measures as depicted on plans and attached details or as recommended by the Town Engineer, Vermont Agency of Natural Resources, the Soil Conservation Service, or the U. S. Army Corps of Engineers, prior to any construction. The Contractor shall also be responsible for inspecting and maintaining all erosion control measures until the Town of Milton accepts the project.
6. The Contractor shall delineate the construction limits to prevent machinery and debris from entering buffer strips and to limit the disturbance of soil and vegetation to an absolute minimum.
7. The Contractor shall limit soil disturbance and seeding application to between May 1st and October 15th. If soil disturbance occurs later than October 15th and prior to May 1st, winter erosion control measures will be necessary. The Contractor shall consult with the Town Engineer for additional site-specific winter erosion control measures.
8. All stockpiled material (topsoil, borrow, etc.) shall have a hay bale dike or silt fence constructed around the perimeter. Stockpiled material shall be seeded and mulched as soon as possible to prevent soil erosion and sedimentation off site. Stockpiles shall be located on the uphill side of disturbed areas, if possible. During windy conditions, stockpiled material shall be covered or watered appropriately to prevent wind erosion. Stockpiles left to winter over shall be seeded and mulched before October 1st to become grass covered.
9. The Town of Milton has adopted an Erosion and Sediment Control Best Management Practices manual to help the Developer and Contractor develop an Erosion and Sediment Plan and protect the environment from any construction disturbance.
10. Slopes greater than 3:1 shall have erosion control netting installed to stabilize the slope and reduce erosion potential. Prepare soil surface, fertilize, lime, seed and mulch slopes as described in the following sections. Install netting over mulched slopes so that all parts are in contact with the soil and mulch.
11. Seed and mulch ditches and slopes with grades less than 2%. Place biodegradable matting and seed on ditches and slopes with grades between 2%

and 5%. Stone line all ditches with grades greater than 5%. Stone for lining shall be a minimum of Type I stone.

SECTION 620 TEMPORARY EROSION CONTROL

1. The Contractor shall install snow fence, silt fence, apply vegetative soil stabilization practices, spread protective layers of straw or hay mulch, terrace or scarify slopes, provide gravel inlet filters for storm drains and ditches, and employ other means, as directed by the Town of Milton or as recommended by the Soil Conservation Service or the Vermont Agency of Natural Resources to prevent erosion and to prevent highly turbid water from being discharged to streams and lakes. These preventive measures may involve construction of stream bypasses, sediment basins, cofferdams and other means.
2. Sites requiring de-watering during any period of construction shall provide sediment traps to ensure that the discharge water will not carry sediment off site.
3. A stabilized road entrance, for the purpose of preventing the tracking of sediment onto public rights-of-way, shall be located at all points where traffic will be accessing a construction site from a public right-of-way or street.
4. Stabilized road entrances shall consist of an eight (8) inch layer of 1 ½" to 4" stone. The stone pad shall extend the full width of the entrance and shall have a minimum length of fifty (50') feet. The stabilized road entrance shall be top dressed with additional stone if the existing stone becomes clogged with sediment.
5. Any disturbed site or stockpile, which remains or is to remain unworked for more than one month shall be seeded with an annual rye and mulched.
6. All erosion control measures shall be inspected weekly and repaired and replaced as needed. A record of inspections and maintenance including date and time of inspection, who conducted the inspection and any action taken will be maintained by the Contractor on site.
7. All erosion control measures shall be inspected after any storm event that produces one inch of precipitation in a twenty-four (24) hour period.
8. Straw mulch is subject to wind action. Mulch may require anchoring as weather conditions warrant. See Erosion and Sediment Control Best Management Practices Manual.
9. It shall be the responsibility of the Developer/Contractor, at his/her expense, to ensure that no dust is created as a result of any work associated with the

Town of Milton Public Works Specifications

construction which would constitute a nuisance or safety hazard. The Developer shall wet sections of the construction area with water or apply calcium chloride or sweep the roadway with a wetted power broom as needed or when deemed necessary by the Town Engineer or designated representative. See Erosion and Sediment Control Best Management Practices Manual.

SECTION 630 MATERIALS

1. Grassed materials shall consist of fresh, clean, new crop seed complying with tolerance for purity and germination established by the Official Seed Analysts of North America. Seed mixture composed of grass species, in proportions and minimum percentages of purity and germination, shall be provided as specified. Seed that has become wet, moldy or otherwise damaged will not be acceptable. The grass seed requirements shall be provided as specified on the approved plans or by a professional landscape architect.
2. Lime shall consist of natural dolomitic limestone containing not less than eighty-five percent (85%) total carbonates with a minimum of thirty percent (30%) magnesium carbonates, ground so that not less than ninety percent (90%) passes a 10 mesh sieve and not less than fifty percent (50%) passes a 100 mesh sieve.
3. Provide fertilizer as recommended by soil test. Phosphorus free or phosphorus reduced fertilizers are encouraged.
4. Anti-erosion mulch for grassed areas shall be clean, mildew free straw, free from seed or other deleterious material. No hay is allowed. Erosion control netting shall be biodegradable non-welded matting with biodegradable staples. The use of commercial tactifiers, hydro mulch, or paper mulch shall to be applied at a rate of 29 Kg/ 1000 m², (64lb./1200 yd²).
5. When silt fence is required the geotextile shall meet Vermont Standard Specification 720.04A for silt fence.

SECTION 640 INSTALLATION

Seeding

1. Loosen subgrade to a minimum depth of four (4) inches. Remove stones over one and one half inch (1½") in any dimension and sticks, roots, rubbish, construction debris, and other extraneous matter. Limit preparation to areas, which will be seeded promptly after preparation.
2. Spread top soil (if applicable) to a minimum depth of six (6) inches (unless otherwise specified), and as required to meet lines, grades and elevations shown on the approved plans, after light rolling and natural settlement.
3. Add fertilizer as recommended by soil tests otherwise at a rate of ten (10) pounds per thousand (1,000) square feet and mix thoroughly into upper four inch (4") of topsoil and soil. Apply ground stone lime, unless otherwise specified, at a rate of fifty (50) pounds per one thousand (1,000) square feet.
4. Fine grade grass areas to smooth, even surface with loose uniformly fine texture. Roll, rake and drag lawn areas, remove ridges and fill depressions, as required to set finish grades. Limit fine grading to areas which can be planted immediately after grading.
5. Moisten prepared lawn areas before seeding if soil is dry. Water thoroughly and allow surface moisture to dry before seeding lawns. Do not create a muddy soil condition.
6. Restore lawn areas to specified condition if eroded or otherwise disturbed after fine grading and prior to seeding.
7. Sow seed using a mechanical spreader. Do not seed when wind velocity consistently exceeds five (5) miles per hour. Distribute seed evenly over the entire area by sowing equal quantity in two (2) directions at right angles to each other. Rake seed lightly into top one eighth inch (1/8") of topsoil, roll lightly and water with a fine spray.
8. Protect seeded areas against erosion by spreading mulch after completion of seeding operations. Spread uniformly to form a continuous blanket not less than one inch (1") and not more than three inch (3") loose measurement over seeded areas.
9. For hydroseeding a grass area, mix specified seed, fertilize and pulverized mulch

Town of Milton Public Works Specifications

in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogenous slurry suitable for hydraulic application. Apply slurry uniformly to all areas to be seeded. Use a rate of application required to obtain specified seed sowing rate.

- 10.** Seed mixtures shall be used that meet the required need of the material being seeded.

ATTACHMENT 4

Milton DPW Specifications, Section 1400, Storm Drainage

SECTION 1400 STORM DRAINAGE

SECTION 1410 GENERAL PROVISIONS

All work resulting in impervious surfaces of equal to or greater than one (1) acre shall comply with the latest edition of the State of Vermont Environmental Protection Rules and Stormwater Regulations and the latest Town of Milton ordinances and specifications.

Stormwater design for all development no matter the amount of impervious acreage developed shall be in compliance with the current edition of the Vermont Stormwater Management Manual including the requirement that the post-development peak discharge shall not exceed the pre-development peak discharge for the 10-year 24 hour storm event. A stormwater narrative with appropriate calculations to determine compliance shall be submitted to the Town Engineer for all development.

A professional engineer, registered in the State of Vermont, shall design all storm drainage systems in accordance with these Public Works Specifications. The Developer shall provide an engineer registered in the State of Vermont to oversee construction and to certify in writing to the Town that all construction was performed in compliance with these Public Works Specifications.

Storm drainage design drawings shall include plans and profiles indicating pipe sizes, slopes and inverts as well as catch basin sizes and invert elevations. All storm drainage systems shall be installed at the locations shown on the approved design drawings in accordance with the typical details.

Storm drainage system installation includes clearing and grubbing, excavation, installation, backfilling, compaction, restoration and soil erosion control.

Storage of pipe and materials shall be in accordance with the manufacturer's recommendations.

Utility or service lines encountered during construction shall be maintained at all times. Sewer, water and utility supply lines shall not be interrupted for any residence, business or other establishment, whether within or outside the construction limits.

All catch basin inlets within the Municipal Separate Storm Sewer System (MS4) boundary shall be marked by the Town: DUMP NO WASTE, DRAINS IN TO SURFACE WATER.

No work will be permitted within the Town right-of-way or on infrastructure to be dedicated to the Town after November 15 or before April 1. However, the Town reserves the right to restrict work before November 15 and after April 1 during adverse weather conditions.

SECTION 1420 DESIGN SPECIFICATIONS

Site designs shall minimize stormwater runoff and utilize pervious areas for stormwater treatment. The use of Buffers between development sites and any watercourse is required. Developments should try to maintain as natural flow off site as possible. (See Stormwater BMPs for watersheds with a high probable impact from changes in stormwater flows.)

Stormwater management shall generally be provided through a combination of structural and non-structural practices. Where practical and feasible, non-structural practices shall be incorporated into a site's design to reduce the reliance on structural practices.

The use of Low Impact Development techniques such as stormwater treatment islands in parking lots and rain gardens should be considered.

The design of all infiltration swales and basins shall include cold climate considerations such as overflows, design for infiltration beneath the frost layer, or storage of the entire 10 year design storm.

SECTION 1420 GEOMETRIC STANDARDS

All storm sewers shall have a minimum diameter of twelve (12") inches and roadway culverts shall have a minimum diameter of eighteen (18") inches.

Driveway aprons shall have HDPE or reinforced concrete culverts with a minimum diameter of eighteen (18") inches and a minimum length of 20 feet maximum 40 feet or as may otherwise be required by the highway access permit.

The minimum grade for swales and drainage ditches shall be 0.02 feet per linear foot. The minimum slope for storm drainage pipes and culverts shall be 0.5%.

Catch basin and drywell sumps shall be at least eighteen (18") inches.

Design standards for bridge and culvert structures shall be designed to meet a 25year storm event or Q-25 Standard.

Catch basins and grates shall not be placed in front of sidewalk ramps.

Roadside ditches and drainage swales shall be treated to minimize erosion and sediment damage. See Town of Milton Erosion and Sediment Control Best Management Practices. An erosion and sediment control plan is required under these Public Works Specifications.

Any culvert greater than or equal to thirty-six (36) inches in diameter will be designed according to the latest VTrans Hydraulics Manual. End Treatments (inlet and outlet) will also be evaluated in accordance with this manual.

All bridges (structures with spans greater than six (6') feet) will have waterway openings designed in accordance with the latest VTrans Hydraulics Manual.

SECTION 1430 MATERIALS

1. Pipe for Culverts

All culverts located within or used to convey stormwater within the Town of Milton shall be Corrugated Aluminum Alloy Pipe meeting VTrans Standard Specification for Construction 711.02 or Corrugated Polyethylene pipe meeting VTrans Standard Specification for Construction 710.03. Reinforced Concrete pipe meeting VTrans Standard Specification for Construction 710.01 and reinforced concrete pipe end sections 710.02. Loading for bridges and box culverts shall be H-25.

Stormwater culverts will require inlet and outlet protection. See Town of Milton Best Management Practices for Erosion and Sediment for greater detail.

2. Storm Drainage Pipe

Polyvinyl Chloride (PVC) pipe shall conform to Vermont Standard Specifications for Construction 710.06 and AASHTO-M278 for 4" to 15", ASTM F679 for 18" to 27". Polyethylene shall conform to Vermont Standard Specifications for Construction 710.03. Push-on elastic gaskets shall be used.

3. Manholes

Manholes and junction boxes for storm drainage systems shall be the same as those described in the Sanitary Sewer Specifications of these Public Works Specifications.

4. Catch Basins and Drywells

Catch basins shall be constructed of precast reinforced concrete and shall be able to withstand an H-20 loading.

Catch basins shall be sufficiently large to accept the required pipes with sufficient

Town of Milton Public Works Specifications

concrete between pipes and above and below each pipe to provide the required structural strength. Refer to Figures 18 through 20 of the standard details. Catch basins shall have a minimum 18" sump. The manufacturer's certification on the fabrication of the structures shall be provided prior to installation.

Pipe inlet and outlets for all structures shall be pre-cast with manufacturer installed rubber boots. If installing pipe in an existing catch basin the basin shall be cored and rubber boot installed.

Drywells for pipe up to eighteen (18") inches in diameter may be S. T. Griswold #530, or approved equal. For larger diameter pipe, four (4') foot manholes shall be required as described in the Sanitary Sewer Specifications of these Public Works Specifications.

5. Frames and Grates

Frames and grates shall be as generally described for manhole frames and covers as described in the Sanitary Sewer Specifications of these Public Works Specifications. However, storm manhole covers shall have the word "STORM" cast into the top surface in three inch letters.

Catch basin grates shall be cast iron of the size and type as shown on the Typical Details.

Roadway frames and grates shall be Neenah or Lebaron type approved by Town Engineer or designated representative.

Swale/ditch frames and covers shall be Neenah or Lebaron type "beehive" grates approved by Town Engineer or designated representative.

6. Pipe Bedding

Pipe bedding shall be as described in the Sanitary Sewer Specifications of these Public Works Specifications.

7. Stone for Ditches

Stone for drainage ditches shall be Type I stone fill. High velocity outflows will require Type II stone fill as required by the Town Engineer or designated representative. Check dams will be required to control water velocity.

SECTION 1440 INSTALLATION

Installation of underground storm drainage systems shall be the same as described in the Sanitary Sewer Specifications of these Public Works Specifications and conforming to VTrans Standard Specifications for Construction, latest edition.

In order to control erosion, headwalls, wingwalls, end sections, splash pads and plunge pools may be required at locations as required by the Town Engineer or designated representative.

In order to ensure proper drainage, driveway culverts within a development shall be installed only after ditches and swales have been constructed to the proper slope.

Seed and mulch ditches with grades less than 2%. Use biodegradable, non-welded matting and seed on ditches with grades between 2% and 5%. Stone line all ditches with grades greater than 5%; alternatively, install stone check dams. Dams should be comprised of a well graded stone matrix 2 to 9 inches in size. Dams should not exceed 2 feet in height and check dam crest should be at least 6" below the top of the ditch. Create parabolic (wide "U" shaped) ditches when constructing new or substantially reconstructing ditches, rather than narrow "V" shaped ditches. Ditches with gradual side slopes (maximum 2H: 1V ratio) and a wide bottom (at least 2 feet) are preferred. Use biodegradable, non-welded matting to stabilize side-slopes where slopes are greater than 1:1; apply seed and mulch to any raw or exposed side-slope if slopes are less than or equal to 1:1. Ditches should be turned out to avoid direct outlet into surface waters. There must be adequate outlet protection at the end of the turnout, either a structural (rock) or vegetative filtering area.

Trenches shall be as described in the Sanitary Sewer Section of these Public Works Specifications.

SECTION 1450 TESTING

Storm drainage systems shall be visually inspected after the system has been cleaned and flushed. Catch basins shall be cleaned at the end of the warranty period.