

The
UNIVERSITY
of **VERMONT**

Application for Coverage Under

**NATIONAL POLLUTANT DISCHARGE
ELIMINATIONS SYSTEMS (NPDES)**

GENERAL PERMIT 3-9014

**FOR STORMWATER DISCHARGES FROM SMALL MUNICIPAL
SEPARATE STORM SEWER SYSTEMS**

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June 3, 2013

University of Vermont

Stormwater Management Program

June 3, 2013

Overview

Through this application, the University of Vermont is establishing a framework to implement practices to prevent or control stormwater runoff. The framework or "program" is structured to meet six minimum control measures, as identified below:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Runoff Control
5. Post-Construction Runoff Control
6. Pollution Prevention/Good Housekeeping

The University of Vermont's Main Campus is located in two different municipalities as well as located in four different stream watersheds. The campus is located in both Burlington and South Burlington, Vermont and is split between the Centennial Brook, Englesby Brook, Potash Brook and Winooski River watersheds. Ultimately, these four watersheds discharge to Lake Champlain.

The University of Vermont own properties off Main Campus that also have storm systems. Both Fort Ethan Allen and Colchester Business Park discharge to Sunderland Brook and then to Lake Champlain.

In keeping with the University's pro-active stance on stormwater issues, they have recently completed substantial upgrades to both the North Campus stormwater facility and the East Campus stormwater facility within the term of the last permit (2008-2013).

The University is in a unique position as a non-traditional MS4 within the Phase II General Permit. The majority of the University is located in the City of Burlington, which is an MS4 permittee, and the remaining portion of campus is located in South Burlington, which is also an MS4 permittee. A portion of the South Campus discharges to Englesby Brook, which eventually discharges to Lake Champlain. Since Lake Champlain is the source of water for both Champlain Water District and the City of Burlington, the University shall review and coordinate the General Permit requirements to minimize conflicts. The goals of this MS4 with regards to preventing or controlling stormwater runoff are consistent with the general principles of the Champlain Water District and City of Burlington (Water Supply Division of Public Works) Source Water Protection Plans. By establishing stormwater facilities at major outfalls, the University is treating and detaining a majority of its urbanized Main Campus. The treatment component of the facilities reduce sediment and nutrient loading of downstream water bodies, and detention of post-development flows help reduce stream bank erosion. We have added as a minimum control measure under pollution prevention/good housekeeping that the University meet again with both Champlain Water District and the City of Burlington to review source protection plans and this stormwater management program to coordinate efforts. We will specifically address changes to the plans since our last meeting in 2008. The University shall also review and coordinate with the City of Burlington and South Burlington regarding Phase II General Permit conditions.

3.1.3 Lake Champlain Phosphorus TMDL

The University shall review the Lake Champlain TMDL when it is reissued and evaluate areas of the Stormwater Management that complies with the TMDL.

1. Promotion of Riparian Buffers and Setbacks.

UVM will abide by applicable zoning regulations in South Burlington and Burlington on Centennial Brook and Potash Brook. There are two UVM Natural Areas: East Woods and Centennial Woods that are located on the above two streams. Management of the Natural Areas is consistent with providing a protected stream buffer for these lands.

2. Stormwater Best Management Practices

The University of Vermont has five stormwater detention facilities to treat and detain stormwater:

- North Campus (57.6 acres)
- East Campus (73.8 acres)
- Southwest Campus (53 acres)
- Main Street Facility (17.4 acres)
- Colchester Business Park (16 acres)

- a. The North Campus Facility drains lands of Fletcher Allen Health Care, City of Burlington (East Avenue), private properties along East Avenue and the University of Vermont. In 2001 the North Campus Facility was upgraded to comply with what came to be the "2002 Vermont Stormwater Manual". By complying with the design standards in the manual it is presumed the structural BMP is achieving an 80% suspended solids removal and 40% phosphorus removal.
- b. The East Campus Facility drains lands of Fletcher Allen Health Care, Sheraton, private properties along East Avenue and the University of Vermont. The original detention facility was originally designed under the 1987 procedures (10 year/24 hour storm event). On April 11, 2002 the University retrofitted the outlet structure on the detention facility to more closely comply to the 1997 procedures (2 year/24 hour storm event).

Currently the University, through its stormwater consultant, Krebs & Lansing Consulting Engineers, redesigned and reconstructed the East Campus Stormwater Facility to comply with the 2002 State of Vermont Stormwater Manual.

- c. The Southwest Campus Stormwater Facility drains lands of City of Burlington (South Prospect Street), Burlington Country Club and the University of Vermont. The original detention basins were designed and constructed in 1991 in accordance with the 1987 procedures (10 year/24 hour storm event). In May of 1999 the University modified the outlet structure to more closely comply to the 1997 procedures (2 year/24 hour storm).

Currently, the University has designed and constructed an upgrade to the Southwest Campus Stormwater Facilities that complies with the new 2002 State Stormwater Manual.

- d. The Main Street Pond was constructed by VTRANS to mitigate impacts from the Main Street Project. The University has not only accepted this facility on its land but has agreed to maintain the stormwater basin. The basin was designed by the engineering firm of Dufresne-Henry Consulting Engineers (now Stantec).
- e. The Colchester Business Park Facility is a pre-existing stormwater pond constructed with the Colchester Business Park in 1980's. The University owns Lot #1, and Lot #3-4. The stormwater system was originally designed by Hamlin Engineers. Refer to General Operational Stormwater Discharge Permit 3307-9010.

The University has acknowledged that the proper design and construction of these BMPs is only part of the solution. For these facilities to properly operate, they must be frequently inspected and maintained. The University's Physical Plant Department has previously done an admirable job of maintaining these facilities by completing trash rack cleanouts and comprehensive sediment removal operations on forebays and/or micropools.

In summary, the University's Stormwater Management Program is in conformance with the recommendations of the Lake Champlain TMDL. Not only are they currently implementing Best Management Practices to reduce phosphorus loading of the lake but the implementation of this Stormwater Management Program will further reduce phosphorus.

The following is an excerpt of the 2012 MS4 permit with University of Vermont SWMP items in italics:

III. STORMWATER MANAGEMENT PROGRAM

The permittee must develop a written stormwater management programs (SWMP). The SWMP must be signed in accordance with Section VI.H. of this permit. The SWMP shall provide measureable goals for the development and implementation of the six minimum measures described in Subparts IV.F and G and additional measures necessary to protect water quality described in Part IV. A permittee's approved Flow Restoration Plan developed in accordance with Subpart IV.C. 1 shall be considered a part of the permittee's SWMP.

IV. DISCHARGE REQUIREMENTS

A. Water Quality Based Requirements

Pursuant to Clean Water Act 402(p)(3)(B)(iii), this 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. The requirements found in Subparts IV. B, C, and D that relate to discharges to impaired waters constitute the water quality based requirements of this permit and the requirements in Part F constitute the maximum extent practicable requirements.

B. Requirements to Meet Water Quality Standards

1. 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 this permit.
2. Except for discharges *listed below*, if at any time the permittee becomes aware, or the Secretary determines, that a discharge causes or contributes to an exceedance of applicable water quality standards, the permittee 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 permittee shall document in the SWMP measures and anticipated timeframes to eliminate the conditions causing or contributing to the exceedances. This 60 day period does not constitute a grace period for purposes of enforcement of Water Quality Standards or this permit. Within 30 days of eliminating the condition, the permittee shall document the measures used to correct the condition in the SWMP. The permittee shall 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; a description of measures taken to eliminate such discharges during the reporting period; and a timeframe for completion of all steps necessary to eliminate such discharges. The permittee shall comply with any additional requirements or schedules established by the Secretary, including any requirement to submit additional information concerning the potential cause of the exceedance. The Secretary reserves the right to notify the permittee that an alternative permit or individual permit is necessary in accordance with Subpart VI.R., to modify this permit if needed, and to take any enforcement action allowed under federal or state law.

Acceptable discharges;

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water
- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Flows from riparian habitats and wetlands, and
- Discharges from fire fighting activities.

C. Discharges to Impaired Waters (*Centennial Brook, Potash and Sunderland Brook*)

Impaired waters are those waters that the Secretary has identified pursuant to Section 303(d) of the Clean Water Act as not meeting the Vermont Water Quality Standards. Impaired waters encompass both those with approved Total Maximum Daily Loads (TMDLs), and those for which TMDL development has been identified as necessary, but for which a TMDL has not yet been approved by the Secretary or EPA. Stormwater impaired waters include those waters that the Secretary has listed as impaired primarily due to stormwater runoff on the EPA-approved State of Vermont 303(d) List of Waters.

1. Discharges to Impaired Waters with an Approved TMDL
 - a) For any discharge from the small MS4 to impaired waters with an approved TMDL, the permittee shall comply with Subpart IV.C of this permit. For purposes of this permit, an "approved TMDL" is a TMDL that has been approved by EPA as of the effective date of this permit. The permittee shall control discharges consistent with the assumptions and requirements of any wasteload allocation (WLA) applicable to the permittee in the TMDL. The permittee shall describe in the SWMP all measures that are being used to address this requirement. The Secretary may notify the permittee of the need to comply with additional requirements that are consistent with the assumptions and requirements of any applicable WLA or that an individual permit application is necessary in accordance with Subpart VI.R.
 - b) If the applicable TMDL does not specify a wasteload allocation or other requirements either individually or categorically for the small MS4 discharge and the permittee has complied with the terms and conditions of this permit, and has undertaken measures and documented them in the SWMP to address the pollutant(s) addressed by the TMDL, then compliance with these conditions will be presumed adequate to meet the requirements of this permit.
 - c) If the applicable TMDL specifies a wasteload allocation or other requirements either individually or categorically for the small MS4 discharge, the permittee shall describe in its annual reports all control measures which have been or are planned to be implemented to control discharges consistent with the assumptions and requirements of the TMDL WLA. The permittee shall include in the annual reports and the SWMP the rationale supporting the permittee's assessment that such controls are adequate to meet the applicable TMDL requirements.
 - d) For those small MS4s that discharge to stormwater-impaired waters with EPA-approved stormwater TMDLs, the permittee shall meet the applicable WLA consistent with the assumptions and requirements of the TMDL.

- e) For those small MS4s that discharge to stormwater-impaired waters with EPA-approved stormwater TMDLs the permittee shall comply with the following requirements:
- (1) The permittee shall develop and submit a comprehensive Flow Restoration Plan (FRP) for the portion of each stormwater-impaired watershed within the permittee's boundaries. Permittees that discharge into the same stormwater-impaired watershed may elect to cooperate to develop a single FRP for the watershed. The FRP shall be submitted to the Secretary **no later than three years after the date of issuance of an authorization to discharge to the permittee under this general permit.** The FRP shall contain the following elements:
 - (a) **Identification of Required Controls.** An identification of the suite of necessary stormwater BMPs that will be used to achieve the flow restoration targets. If a stormwater-impaired watershed includes lands outside the boundaries of a small MS4 permittee, the FRP shall address the permittee's commensurate share of necessary BMP implementation based on percent impervious land cover.
 - (b) **Design and Construction Schedule.** A design and construction schedule for the stormwater BMPs that have been identified by the permittee as necessary to achieve the flow restoration targets. The schedule shall include a discussion of any necessary permits or other regulatory approvals necessary for implementation of the required BMPs. The schedule shall provide for implementation of the required BMPs as soon as possible, **but no later than 20 years from the effective date of this permit** or from the date of the permittee's designation as a regulated small MS4, whichever is later.
 - (c) **Financial Plan.** A financing plan that estimates the costs for implementing the FRP and describes a strategy for financing the FRP. The financing plan shall include the steps each permittee will take to implement the financing plan.
 - (d) **Regulatory Analysis.** A regulatory analysis that identifies and describes what, if any, additional regulatory authorities, including but not limited to the authority to require low impact development BMPs, the permittee will need in order for the permittee to implement the FRP.

- (e) **Identification of Regulatory Assistance.** An identification of regulatory assistance that the permittee will need from the Secretary in order to effectively implement the FRP. This should include an assessment of aspects of the FRP where the regulatory analysis indicates that the permittee's authority may not be sufficient to effectively implement the FRP. For example, use of residual designation authority pursuant to 40 C.F.R. §122.26.
 - (f) **Third-Party Implementation.** An identification of the name of any party, other than the permittee, that is responsible for implementing any portion of the FRP.
- (2) Upon approval by the Secretary, the Flow Restoration Plan shall be a part of the permittee's SWMP. Any failure of the permittee to comply with the SWMP, including but not limited to the design and construction schedule in the approved FRP, shall constitute a violation of this permit.
- (3) **Schedule of Compliance:** The permittee shall implement measures necessary to achieve the flow restoration target in the TMDL no later than 20 years after the effective date of this permit or the date of the permittee's designation as a regulated small MS4, whichever is later. Subject to the requirements of section IV.J.3 of this permit, the Secretary may adjust a permittee's flow restoration targets during the term of this permit if justified by monitoring data or other relevant information. The following FRP development and implementation schedule shall apply. All milestone dates are calculated from the date of issuance of an authorization to discharge to the permittee under this general permit. The Secretary will include a reporting schedule in each permittee's authorization specifying the due dates for each of these deliverables. When FRP reporting deadlines coincide with the annual report due date, one report may be submitted.

The permittee shall, according to the following schedule:

Month 3	Submit to the Secretary for approval a plan for meeting the requirements of IV.C.1(e)(7) (flow monitoring plan).
Month 6	Submit to the Secretary for approval a plan for addressing expired state stormwater permits discharging to the permittee's MS4 system. This plan may include a request to the Secretary to exercise its Residual Designation Authority (RDA) pursuant to Clean Water Act §§402(p)(2)(E) and (6) and 40 C.F.R § 122.26 (a)(9)(i)(C) and (D) to require NPDES permits for stormwater systems with expired state stormwater permits. The permittee's plan for addressing the expired permits shall insure that all permitted facilities demonstrate compliance with the existing expired permit, at a minimum, and insure that these facilities are incorporated into the FRP.
	Identify the process the permittee intends to use to meet the requirements of IV.C.1 (development of FRP).
	Submit verification of implementation of flow monitoring, per IV.C.1(e)(7).
Month 12	Submit semi-annual report*
Month 18	Submit semi-annual report*
	Include in the semi-annual report the status of the permittee's development of the FRP, including a schedule for completion of the FRP
Month 24	Submit a report verifying that all existing stormwater systems with expired permits are now in compliance with the existing expired permit or subject to a NPDES RDA permit, including verification that all required maintenance has been performed.
Month 30	Submit semi-annual report*
Year 3	Submit a complete FRP to the Secretary for approval.
Month 42 and every 6 months thereafter	Submit semi-annual report*
Date specified in FRP approval (not to exceed 20 years)	Complete implementation of the approved FRP

*The permittee shall submit a report on a semi-annual basis on the permittee's development and implementation of the FRP. The report shall address actions taken to implement all FRP components, including the extent of BMP implementation, an estimate of the extent of completion for remaining items, and an assessment of the ability to meet outstanding schedule items. The FRP report shall include a written statement signed by a designer that any BMP built or implemented within the preceding 6 month period was constructed in compliance with the approved plans. The permittee shall include in each FRP report an estimate of any associated reductions in phosphorus loading that occur as a result of implementation measures undertaken by the permittee to meet the flow reduction targets.

- (4) Commencing two years after the issuance of an authorization or designation as a regulated small MS4, the permittee shall develop a program to identify opportunities for and provide technical assistance to landowners in the implementation by landowners of low impact BMPs such as maximizing disconnection, maximizing infiltration of stormwater runoff, preventing and eliminating soil erosion, and preventing and eliminating the delivery of pollutants to stormwater conveyances.
- (5) Commencing two years after the issuance of an authorization or designation as a regulated small MS4, the permittee shall prepare and submit to the Agency a report on legal authorities or strategies that the permittee has adopted to protect and regulate development in the stream corridors of stormwater impaired waters.
- (6) Commencing two years after the issuance of an authorization or designation as a regulated small MS4, the permittee shall prepare and submit a plan for outlining options for enhanced protection of stream corridors of stormwater impaired waters. The plan should 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. In preparing this plan, the permittee should review riparian buffer and stream fluvial geomorphological information provided to the permittee by the Agency as a result of the Agency's preparation of the stormwater TMDLs.
 - (a) For those areas of stream corridors that have not been developed or otherwise converted to impervious surface, the permittee's plan should identify options for ensuring enhanced protection, which may include: (1) minimum widths of stream channel buffers requiring protections, (2) minimum setback requirements and (3) proposed planning and zoning regulations, municipal ordinances or codes, policies or other requirements to enhance protection of undeveloped stream corridors.
 - (b) For those areas of stream corridors that have been developed or otherwise converted to impervious surfaces, the permittee's plan should identify options for stream corridor restoration, which may include: (1) restoring stream buffers and (2) relocation of development outside stream corridors for development projects.
- (7) As a result of a rigorous analysis of the requirements and the need for stormwater monitoring data summarized in the National Academy of Sciences report: Urban Stormwater Management in the United States (2009) and the Vermont Water Resources Board docket and proceedings described in "A Scientifically Based Assessment and Adaptive Management Approach to Stormwater Management" (2004) the Agency has instituted a network of stream flow gauging and rainfall

gauging stations in the stormwater impaired watersheds. The Agency has funded the operation and maintenance of these stations for the years 2005-2009. As part of this long term monitoring effort:

- (a) The permittee shall implement, or otherwise fund, a flow and precipitation monitoring program, subject to approval by the Secretary, in its respective stormwater impaired watersheds. A nontraditional MS4, at a minimum, may cost share in the O&M cost of the gage(s) for each watershed into which it discharges.
- f) A permittee's discharges must be consistent with the assumptions and requirements of any wasteload allocation for the permittee's discharges in any future TMDL established or approved by EPA pursuant to 40 C.F.R. §130.7. If the Secretary determines that more stringent requirements are necessary to support achievement in any future TMDLs or WQRPs, the Secretary will impose such requirements through a modification of this permit or by their inclusion into this permit upon reissuance. Alternatively, the Secretary may notify the permittee that an individual permit application is necessary. Such consistency is also required for any future applicable Water Quality Remediation Plans established pursuant to 10 V.S.A. §1264 and for other applicable TMDLs for impaired waters adversely affected by a small MS4.
- g) The assessment of whether a SWMP is consistent with the assumptions and requirements of a stormwater TMDL will be based on the implementation and maintenance of best management practices identified in the FRP and on flow monitoring, not on measurements of pollutant loading.

"This section is reserved for a description of the flow monitoring plan required by section IV.C.1(e)(7) of the 2012 MS4 permit. The 2012 MS4 permit requires that the University prepare a plan for flow monitoring in stormwater impaired streams within 3 months of receiving authorization under the 2012 MS4 permit. The SWMP will be amended to include this information once it is approved by the Vermont ANR."

- *Year 1 – Convene MS4s to discuss flow monitoring. Work with ANR to determine what an acceptable stream flow monitoring program would look like. What equipment could be used? Who could or could not do it on behalf of the MS4s.*
- *Year 2 – Convene MS4s to discuss a plan for implementing flow monitoring. Make a final determination regarding whether or not ANR will run the monitoring program. Discuss cost sharing between the MS4s for the monitoring program. Discuss how non-traditional MS4s could be involved.*
- *Year 3 – Develop an RFP, invest in equipment and complete other tasks as necessary to begin monitoring in year 4.*
- *Year 4 – Begin monitoring in the stormwater impaired streams.*
- *Year 5 – Continue monitoring in the stormwater impaired streams.*

2. Discharges to Impaired Waters without an Approved TMDL (*Lake Champlain*)

If a small MS4 discharges to an impaired water that is without an approved TMDL, the permittee shall comply with Part IV of this permit and address in its SWMP and annual reports how any discharges that have the potential to cause or contribute to the impairment will be controlled so that they do not cause or contribute to the impairment. A small MS4 may achieve an increased level of control through additional BMPs or enhancement of existing BMPs. If elimination of such discharges is impossible within 60 days, then the permittee shall submit to the secretary a plan for eliminating or controlling its discharges. The plan shall include an assessment of whether MS4 discharges are potential contributors to the identified impairment and identify the sources of the discharge and, unless available information indicates that the permittee's discharges are not a potential contributor to an impairment, a response plan that identifies additional or modified BMPs to be implemented. This plan shall be designed as an iterative process. The content of the response plan should reflect the magnitude and complexity of the impairment and the permittee's potential to contribute to the impairment. This 60 day period does not constitute a grace period for purposes of enforcement of Water Quality Standards or this permit.

D. New Dischargers (Applicable Only to "Non Traditional MS4s")

A new discharger is any building, structure, facility or installation (a) from which there is or may be a discharge of pollutants; (b) that did not commence the discharge of pollutants at a particular site prior to August 13, 1979 ; (c) that is not a new source; and (d) that never received a finally effective NPDES permit for discharges at that "site." For purposes of this permit "site" means the land area where the MS4 is located as of the effective date of this permit; and the same or contiguous land if any new structure, facility or installation that is served by the MS4 is created there after the effective date of this permit.

1. New Discharger to Impaired Waters Without an Approved TMDL

A new discharger to an impaired water without an approved TMDL is not eligible for coverage under this permit. The permittee must apply for an individual permit.

2. New Discharger to Impaired Waters with an Approved TMDL

A new discharger to an impaired water with an approved TMDL is not eligible for coverage under this permit unless the permittee submits to the Secretary documentation before the commencement of the discharge that:

- a) There are sufficient remaining pollutant load allocations in all TMDLs applicable to the discharges; and
- b) The existing discharges to the waterbody are subject to compliance schedules designed to bring the waterbody into attainment with water quality standards; and
- c) Retains such documentation in the SWMP; or

- d) To the extent consistent with law, establishes an offset for the discharge of the pollutant identified in the TMDL; and retain any relevant documentation with the SWMP; and
- e) Receives an affirmative determination from the Secretary that the new discharger meets the requirements of this paragraph; or
- f) Prevents exposure to stormwater of the pollutants for which the waterbody is impaired; or
- g) Documents that the pollutant(s) for which the waterbody is impaired is not present in the discharge.

The permittee must apply for an individual permit if the conditions above cannot be met.

The University acknowledges this non-traditional portion of the MS4 permit requirements as described above and clarified in email and flow chart from ANR attached.

(End of excerpt from permit)

E. Minimum Control Measures

1. Minimum Control Measure #1 - Public Education & Outreach

The University of Vermont is one of many key members in the Regional Stormwater Education Program. The Memorandum of Understanding will be forwarded when signed by all MS4's. In addition, the University shall continue to post research and stormwater information on UVM's website with locally relevant stormwater management information and promote its existence and use.

2. Minimum Control Measure #2 - Public Involvement/Participation

The University of Vermont is one of many key members in the Regional Stormwater Public Involvement and Participation Program. The Memorandum of Understanding will be forwarded when signed by all MS4's.

3. Minimum Control Measure #3 - Illicit Discharge Detection and Elimination

To meet the above referenced minimum measures the University is planning to implement the following measures.

- A) Storm Sewer System Map
- B) Illicit Discharge Policy
 - Illicit Discharge Plan
 - Inform University employees of hazards associated with illegal discharges
- A) Stormwater Sewer System Map

The University has been pro-active in mapping their storm sewer systems. Along with the mapping of storm pipes, the University has analyzed and calculated areas for the following watersheds under the jurisdiction of the MS4 Phase II General Permit.

<u>Waters that receive discharge from UVM Main Campus</u>	<u># of Outfalls</u>	<u>Approx. Watershed Area from UVM</u>
Centennial Brook (East Campus)	2	73.8 acres
Centennial Brook (North Campus)	1	52.6 acres
Englesby Brook (South West Campus)	2	53 acres
Winooski River (Colchester Avenue)	1	10.3 acres
Winooski River (Trinity)	4	20.6 acres
Sunderland Brook (Colchester Business Park)	5	16 acres
Sunderland Brook Groundwater (Fort EA)		7.1 acres
Sunderland Brook (Fort Ethan Allen)	2	12.0 acres
Lake Champlain (Jeanne Mance)	1	1 acre

The basis of most of the mapping has been the "Sells Maps" created by low level orthophotographic methods. The separate storm sewer system has been added to the mapping by means of field surveys, site investigations, as-built mapping and design drawings.

A.1) Measurable Goal

The schedule to include the additional mapping is as follows:

- Year 1** Update Utility Master Plan with recently completed projects
- Year 2** Update Utility Master Plan with recently completed projects
- Year 3** Update Utility Master Plan with recently completed projects
- Year 4** Update Utility Master Plan with recently completed projects
- Year 5** Update Utility Master Plan with recently completed projects

The above referenced storm system shall be inspected annually by the Physical Plant Department of the University of Vermont. The inspections shall not only assess items to be repaired or cleaned but also verify accuracy of existing mapping. All modifications to mapping shall be forwarded to Campus Planning Services for amending the UVM Utility Master Plan.

A.2) Justification

The basis of any illicit discharge detection plan is a comprehensive infrastructure map. The map will be used to trace suspicious discharges and investigate dry weather flows. The separate storm sewer map also identifies each catch basin by name which ensures comprehensive inspections and tracking of maintenance.

B) Illicit Discharge Policy

The University has established a policy prohibiting the discharge of foreign substances into storm drains. The policy identifies allowable stormwater discharges that the policy would not address. All other discharges would be subject to the policy. The purpose of the policy shall be:

- To regulate the contribution of pollutants to the University separate storm sewer system by stormwater discharges by all University applicable properties. (Including Redstone Apartments, Redstone Lofts and Centennial Court).

- To prohibit illicit connections and discharge to the University separate storm sewer system.

The policy shall at a minimum require the following measures:

- Evaluate MS4 map and determine areas with higher potential for illicit discharges.
 - a) Floor drains
 - b) Any drains connected to buildings such as roof drains
 - c) Dry weather flow
- Complete dry weather inspection of all discharges/outfalls that have already been inspected. Continue to investigate discharges during dry weather. This may include optical brighteners, ecoli bacteria, fluoride dye testing, and/or video investigation.
- Develop plan for improvements
 - a) Assess severity of deficiency
 - b) Assess degree of danger to public
 - c) Assess potential for damage to property

Based on above referenced analysis, the University shall allocate funds to repair deficiency as weather permits. The University shall document all deficiencies and schedule of repairs in annual report.

The plan to address illicit discharges shall include reference to policy and procedures to follow for inadvertent spills and cleanups. The University already has a spill prevention plan which is administered by the University's Environmental Safety Facility.

The plan will include dry weather inspection of discharge points. Additional testing on suspected illicit discharges may include optical brighteners, dye testing, video investigations, and/or fluoride testing. The plan will focus on areas with floor drains, roof drains, and storm drains connected to buildings, storage of contaminants close to drains and areas of older sanitary/storm facilities.

The procedure for removing the source of illicit discharge shall be dependent on the type of discharge, its impact and costs. All illicit discharges shall be identified in the annual report submitted to the Agency of Natural Resources. The University shall also identify summary of monitoring activities and corrective actions taken.

The enforcement provisions of the policy shall be consistent with the University's student and/or employee code of conduct policies.

B.1) Measurable Goals

The schedule to establish and adopt the Illicit Discharge Policy is as follows:

Year 1 - Complete dry weather/inspections – North Campus

Year 2 - Complete dry weather/inspections – East Campus & Main Street East

Year 3 - Complete dry weather/inspections – Southwest Campus

Year 4 - Establish priority for elimination of illicit connection. Eliminate connection in accordance with priority schedule.

Year 5 - Establish priority for elimination of illicit connection. Eliminate connection in accordance with priority schedule.

B.2) Justification

The University has established a policy to effectively prohibit illicit discharges into the separate storm sewer system. The University chose that mechanism throughout this plan due to its inability to establish an ordinance or other regulatory mechanism because of its non-traditional municipal standing.

Illicit Detection Plan and Program Structure

Coordinator: Linda Seavey, Campus Planning Services

BMPS Proposed

Mapping
Illicit Discharge Policy
Educational

Responsible Party

Campus Planning Services
Campus Planning Services
Regional Stormwater Education Committee

At this point the University has not identified the following categories of non-stormwater discharges as significant contributors of pollutants. As the mapping, monitoring and investigation of storm system advances, the University will continue to evaluate the frequency of the non-stormwater discharge and their impact.

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- Irrigation water

- Springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Flows from riparian habitats and wetlands, and
- Discharges from fire fighting activities.

4.2.4 Minimum Control Measure #4 - Construction Site Runoff Control

To meet the EPA Phase II MS4 minimum measures, the University is planning to implement the following measures:

- A) In South Burlington, Enforce existing Erosion and Sediment Control Policy. The policy requires:
- Qualified Architects or Engineers to design and detail appropriate erosion and sediment control best management practices. If the construction activity does not require design plans prepared by a qualified site designer, a qualified University Project Manager shall draft an appropriate erosion and sediment control plan utilizing best management practices. Utilize ANR's Low Risk Site Handbook for Erosion Prevention & Sediment Control as guidance.
 - Architect or Engineer to draft construction specifications that identify disposal of construction waste that may have adverse impact on water quality. If the project's size does not warrant plans or specifications, the policy shall require the University's qualified project manager draft a plan to control the disposal of construction waste that may have adverse impact on water quality.
 - Site inspection and enforcement of control measures.

The University shall continue a policy which specifically addresses stormwater runoff from construction sites that disturb more than 5,000 s.f.

Site construction at the University is generally managed through one of three departments: Campus Planning Services, Physical Plant Department, and/or Facilities Design and Construction Services.

The University, through the Campus Planning Office, will identify construction activities meeting the Low Risk, Moderate Risk and Individual Permit threshold. The University will report such activities by permit application on University property to the Secretary of the Agency of Natural Resources to assure that all such projects are properly permitted.

The Erosion and Sediment Control Policy is applicable to all projects that disturb more than 5,000 s.f. The University shall continue to reference the policy as standard language in consultant agreements and site contractor bid packages. By including the requirements of the policy in the above referenced contracts, the policy will be enforceable on site during construction.

The University shall review existing policies and procedures to determine their effectiveness in managing construction related erosion and sediment and construction waste that may cause adverse impacts to water quality.

B) In Burlington, the University shall comply with the City's Erosion Control Ordinance. The ordinance requires the University to apply for and obtain an EPSC permit for any disturbance over 400 SF.

C) Construction sites that disturb more than one acre

The University is subject to ANR's Construction General Permit. The University is required to perform an Appendix A risk score for all concurrent disturbances in each watershed. The University shall comply with all requirements depending on the level of erosion risk (Low Risk, Moderate Risk or Individual permit)

D) Construction sites that disturb between 5,000 s.f. and 1 acre, and are not subject to Construction Stormwater Permits

The policy requires the implementation of proper sediment and erosion controls, and controls for other construction wastes that could significantly impact water quality. The policy shall require an appropriately "sized" erosion control plan considering the following measures:

1. Minimize impacts to environmentally sensitive areas
2. Timing and sequencing the work to minimize erosion potential
3. Keep disturbed areas small
4. Stabilize disturbed areas as soon as practicable
5. Reduce or eliminate stormwater runoff over disturbed areas
6. Protect existing stormwater inlets and channels if practicable

A qualified University employee or qualified owners representative shall implement weekly erosion control reviews of construction activities. Additional reviews are required after rain storms greater than 1/2". These reviews would only occur when construction activities involve exposed soils. The policy would require the site contractor to complete the same review.

The Erosion and Sediment Control Structure

Coordinator: Linda Seavey, Campus Planning Services

Proposed BMPS

Erosion and Sediment Control Policy
Inspections of Construction
Pre-Construction Review of Site Plan and
Sediment Control Plan

Responsible Party

Campus Planning Services
Physical Plant Department/F.D.&C./C.P.S.
Physical Plant Department/F.D.&C./C.P.S.

5. Minimum Control Measure #5 - Post Construction Runoff Control

The University's campus is considered a "Common Plan of Development" by ANR. Because of this

designation, any expansion of impervious that discharges to any other system other than the City of Burlington combined storm/sewer system requires an Operational Stormwater Discharge permit. Discharges to the combined City of Burlington system will comply with the City stormwater ordinance.

Project Requiring State Stormwater Discharge Permits

The University has in the past and will continue to be diligent in making sure all project are properly permitted. They have completed necessary inspections of the stormwater treatment basin and reported to the Agency in a comprehensive and timely manner. The University Physical Plant Department is responsible for the operation and maintenance of the University grounds and the stormwater treatment facilities. The grounds at the University are being constantly reviewed by Physical Plant employees as they complete their day-to-day activities. They will be required to report obvious signs of stormwater and erosion control non-compliance. The Stormwater Treatment Basins will be thoroughly reviewed under the supervision of a professional engineer licensed in the State of Vermont. As required in the Operational Permits, reports of the stormwater system inspection shall be sent to the Agency.

Projects Not Requiring State Stormwater Discharge Permits

The University's campus is considered a "Common Plan of Development" by ANR. Because of this designation, any expansion of impervious that discharges to any other system other than the City of Burlington combined storm/sewer system requires an Operational Stormwater Discharge permit. Discharges to the combined City of Burlington system will comply with the City stormwater ordinance.

As mentioned previously in this Stormwater Management Program, the University has three departments which generally administer all the site construction; Campus Planning Services, Physical Plant Department, and Facilities Design & Construction Services. With the above referenced framework of services, the University already has developed and implemented procedures to assure new development and redevelopment activities are properly permitted, constructed and maintained.

Measurable Goals

- Year 1** – Provide site visits to all stormwater treatment facilities to evaluate performance. Provide report of site visit. Identify items to be corrected. Provide schedule to repair item.
- Year 2** – Provide site visits to all stormwater treatment facilities to evaluate performance. Provide report of site visit. Identify items to be corrected. Provide schedule to repair item.
- Year 3** – Provide site visits to all stormwater treatment facilities to evaluate performance. Provide report of site visit. Identify items to be corrected. Provide schedule to repair item.

Year 4 – Provide site visits to all stormwater treatment facilities to evaluate performance. Provide report of site visit. Identify items to be corrected. Provide schedule to repair item.

Year 5 – Provide site visits to all stormwater treatment facilities to evaluate performance. Provide report of site visit. Identify items to be corrected. Provide schedule to repair item.

Justification

The jurisdictional threshold for a State Stormwater Permit is generally 1 acre of impervious for new or redevelopment projects. Projects which disturb greater than 1 acre and have less than 1 acre of impervious could still have severe adverse impacts to water quality if not properly designed and maintained.

6. Minimum Control Measure #6 -Pollution Prevention/Good Housekeeping

To meet the six minimum control measures identified in the Phase II General Permit for MS4s, the University shall continue to implement a rigorous operation and maintenance program for the University grounds, implement rigorous procedures for storing hazardous materials, use best management practices in landscaping and lawn care, minimize road salt application, implement alternative experimental de-icing technologies, and review policies and procedures for discharge of pool water to ensure proper disposal. The University obtained coverage under the Multi-Sector General Permit for hazardous material storage and received “No Exposure” exception.

A.) Physical Plant Department Operation and Maintenance Manual for Grounds.

The Physical Plant Department shall be required to operate and maintain the University grounds as detailed below as a condition of this permit.

- Inspect all catch basins annually
 - Note necessary repairs
 - Note dry weather flow, suds, oily surfaces, smells
 - Note erosion near frame and grate
 - Note if sump requires cleaning
 - Note if differences from University stormwater mapping
- Limit salt use during winter months. Establish Master Plan policy to restrict use of salt.
- Adopt the use of salt additives to lessen stormwater impacts from salt.
- Sweep all sidewalks and pavements in spring to collect winter sands. If sweeping and removal of collected debris is contracted outside the University, the University Physical Plant shall visually review and approve of the disposal location and stabilization procedure.
- Visually inspect trash racks on stormwater treatment basins once per week and

after storms of greater than 1/2". Remove debris as necessary and dispose of properly.

- Restrict the application of fertilizer to athletic fields and common green only. Apply only the required amount of fertilizer in accordance with best management practices. All applications are with a phosphorous free fertilizer.
- Visually inspect campus for winter damage due to plows, etc. Repair, reseed and mulch as soon as seasonably possible.
- Physical plant shall document all maintenance activities listed above and summarize in annual report to Agency of Natural Resources.

B.) Engineer Annual Treatment Basin Review

- The University shall retain a qualified engineer to review the stormwater treatment facilities once a year (Spring).
- The University shall develop a comprehensive review checklist including pond embankment, outlet structure, vegetation, sediment accumulation, etc.

Measurable Goals

- Year #1** Continue operation and maintenance of grounds. Continue annual review of stormwater facilities. Meet with Champlain Water District and City of Burlington Water Department to review source protection plans and stormwater management plan.
- Year #2 – 5** Continue to maintain and inspect grounds and storm system. Continue to complete dry weather and wet weather monitoring of stormwater runoff. Analyze annually.

Justification

The operation and maintenance of the stormwater facilities goes beyond just the ponds themselves. With proper maintenance upstream, the University has been able to significantly reduce the waste load to the treatment ponds. This rigorous maintenance schedule is the most cost effective means of removing sediment and improving the performance of the treatment facilities.

Summary

Historically, the University of Vermont has prioritized the management of its stormwater runoff. They have substantially completed stormwater mapping and have a large portion of the University draining to Stormwater Treatment Facilities prior to waters of the State. Based upon their past efforts, we feel the University has minimized their impact on the adjacent impaired waterways.

However, there is always room for improvement. We are excited to discover and measure the improvements in stormwater quality throughout this third 5 year permit period.

Through the efforts of the Agency, Regional Planning and all the MS4s, a Regional Stormwater Education Program and a Regional Public Involvement and Participation Program was established. The Education Program involves all of the MS4s and provides the most cost effective method of educating and involving the public in stormwater issues.

Attachment A: Selected Minimum Control Measures

BMP ID	Public Education	Responsible Dept. or Person	Measurable Goal
1-1	Maintain SW website	UVM Campus Planning	Post MS4 NOI, SWMP and annual reports. Maintain stormwater website.
1-2,3,4	Participate in RSEP, other regional SW ed. strategy, or submit individual plan	UVM Campus Planning	Participate in Regional Stormwater Educational Strategy
1-5a	Develop or acquire informational brochures	N/A	N/A
1-5b	Distribute SW brochures 2x in first year and 1x in subsequent years	N/A	N/A
1-5c	Seek local news media to run at least 2 news or feature stories per year	N/A	N/A
1-5d	For municipalities: Develop school materials and teacher trainings	N/A	N/A
1-5e	For non-traditionals: Develop public ed campaign for facility users	N/A	N/A

Attachment A: Selected Minimum Control Measures

BMP ID	Public Participation	Responsible Dept. or Person	Measurable Goal
2-9	Participate in the Stream Team or other regional SW participation program, or submit individual plan	UVM Campus Planning	Participate in regional stormwater public involvement and participation program
Implement a program that includes at least 3 of the following:			
2-1	Form a citizen SW advisory panel	N/A	N/A
2-2	Establish or support a WQ monitoring program involving citizen volunteers	N/A	N/A
2-3	Institute an on-going public workshop series on SW awareness	N/A	N/A
2-4	Institute a continuing storm drain stenciling project	N/A	N/A
2-5	Sponsor periodic community stream corridor clean-up days	N/A	N/A
2-6	Establish and support a citizen "stormwater watch" group	N/A	N/A
2-7	Create or support an "adopt-a-stream" program	N/A	N/A
2-8	Undertake a program similar in content and scope to the above with permission of Secretary	N/A	N/A

Attachment A: Selected Minimum Control Measures

BMP ID	Illicit Discharge Detection & Elimination	Responsible Dept. or Person	Measurable Goal
3-1	Develop and enforce a program to detect and eliminate illicit discharges	UVM Campus Planning	Complete dry weather inspection of stormwater outfalls. Research origin of flows.
3-2	Develop and maintain storm sewer GIS or AutoCAD map	UVM Campus Planning	Update mapping to reflect new projects prior to MS4 permit term.
3-3	Develop and enforce illicit discharge ordinance	City of Burlington/City of South Burlington	UVM will comply with illicit discharge ordinance in both Burlington and South Burlington.
3-4	Develop and implement illicit discharge detection plan, focus on impaired waters and random dumping	UVM Campus Planning/UVM Physical Plant	Update mapping to reflect new projects prior to MS4 permit term. Physical plant review of ponds to look for spills.
3-5	Inform public of illicit discharge and disposal hazards	UVM Campus Planning	Email or post illicit discharge information to UVM department heads.
3-6	Address specific categories of illicit discharges, if necessary	UVM Campus Planning/UVM Physical Plant	Complete dry weather inspection of stormwater outfalls. Research origin of flows. Make sure all CBs have stickers.
3-7	Prepare annual report of monitoring and corrective actions taken	UVM Campus Planning	Prepare annual report of monitoring and correction actions taken. Submit annual report on 4/1 for previous year.

Attachment A: Selected Minimum Control Measures

BMP ID	Construction Site Runoff Control	Responsible Dept. or Person	Measurable Goal
4-1	Develop and implement procedures to ensure MS4 construction activities are properly permitted	UVM Campus Planning	All permitting of projects occurs through the Campus Planning office.
4-2	Review existing MS4 regulations for effectiveness in managing construction-related E&S and consistency with state construction permit	UVM Campus Planning	The City of Burlington/South Burlington local ordinances are equal to or more stringent than the State requirements.
4-2a	(Erosion & Sediment Control) Adopt E&S requirements that are at least as stringent as state requirements		The City of Burlington/South Burlington local ordinances are equal to or more stringent than the State requirements.
4-3	Develop and implement an erosion control ordinance that regulates development not subject to state permitting	City of Burlington/UVM	The City of Burlington has adopted an Erosion Control policy for projects that disturb more than 400 SF. The University has a threshold of 5,000 SF for its EPSC policy.

Attachment A: Selected Minimum Control Measures

BMP ID	Post Construction Runoff Control	Responsible Dept. or Person	Measurable Goal
5-1	Review existing MS4 regulations for effectiveness in managing stormwater runoff and consistency with state operational permit	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.
5-1a	Assess changes to regulations to support LID	City of Burlington/City of South Burlington	UVM will comply will all application regulations from Burlington and South Burlington.
5-1b	Assess changes to regulations to minimize impervious surface through street & parking lot design	City of Burlington/City of South Burlington	UVM will comply will all application regulations from Burlington and South Burlington.
5-1c	Adopt requirements that are at least as stringent as state requirements	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.
5-2	Develop and implement procedures to identify the development	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.
5-3	Develop and implement an ordinance that regulates the development	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.
5-4	Develop and implement inspection procedures for the development	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.
5-5	Develop and implement procedures to ensure MS4 development activities are properly permitted	UVM Campus Planning	The University is already subject to State stormwater discharge permit requirements for almost all expansions of new impervious.

Attachment A: Selected Minimum Control Measures

BMP ID	Pollution Prevention & Good Housekeeping	Responsible Dept. or Person	Measurable Goal
6-1	Describe operation and maintenance program for reducing pollutant runoff from MS4 operations, including, at a minimum:	See below.	See below.
6-1a	New construction and land disturbance	UVM Campus Planning, FD&C and Physical Plan	All land disturbances over 400 SF are subject to Burlington stormwater regulations.
6-1b	Maintenance of fleet and buildings, all municipal garages, parks, open space, construction and maintenance practices for gravel backroads, snow disposal and stormwater systems	UVM Physical Plant	Physical Plant shall report stormwater related activities in annual report.
6-1c	Training, maintenance schedules, and inspection procedures for long term structural controls	UVM Physical Plant	Physical Plant shall report stormwater related activities in annual report.
6-1d	For municipal facilities where fertilizers are applied, prohibit the use of fertilizers containing phosphorus (unless warranted by a soil test)	UVM Physical Plant	Phosphorus banned.
6-2	For Municipal garages, an MS4 may participate in ANR's Municipal Compliance Assistance Program	N/A	N/A
6-3	Provide a list of all industrial facilities that the MS4 owns or operates that are subject to the MSGP	UVM Physical Plant	Will include in each annual report.

Attachment B: Minimum Control Measure Implementation Timeframe

BMP ID	Permit Year One			Permit Year Two			Permit Year Three			Permit Year Four			Permit Year Five			Next Permit					
	Spring 2013	Summer 2013	Fall 2013	Winter 2013-2014	Spring 2014	Summer 2014	Fall 2014	Winter 2014-2015	Spring 2015	Summer 2015	Fall 2015	Winter 2015-2016	Spring 2016	Summer 2016	Fall 2016		Winter 2016-2017	Spring 2017	Summer 2017	Fall 2017	Winter 2017
Public Education																					
1-1																					
1-2,3,4																					
1-5a																					
1-5b																					
1-5c																					
1-5d																					
1-5e																					
Public Participation																					
2-9																					
2-1																					
2-2																					
2-3																					
2-4																					
2-5																					
2-6																					
2-7																					
2-8																					
Illicit Dishare Detection & Elimination																					
3-1																					
3-2																					
3-3																					
3-4																					
3-5																					
3-6																					
3-7																					

UVM WILL USE ITS ANNUAL REPORT TO TRACK SCHEDULE OF MS4 ACTIVITIES

Krebs and Lansing

From: Witters, Christy [Christy.Witters@state.vt.us]
Sent: Monday, May 20, 2013 4:32 PM
To: Krebs and Lansing; Monks, Padraic
Cc: 'Lani Ravin'; 'Linda E. Seavey'
Subject: RE: Fwd: RE: Stormwater MS4 Permit Issued
Attachments: New Discharges from Non-Traditionals.pdf

Hi all,

I spoke with Bill today about the interpretation of the New Discharges language in the MS4 permit. I've sketched out our interpretation of how this applies to UVM facilities within the Urbanized Area, the SW Impaired watersheds and outside of these areas. Please see the schematic, attached. Also, let me know if you have any specific questions and we can work on specific determinations. I did my best to lay out the applicability, but I am sure that there will be other cases. Thanks, Christy

Christy Witters, AICP
MS4 and MSGP Program Coordinator
VT DEC Stormwater Program
One National Life Drive
Montpelier, VT 05620-3522
802.490.6173
christy.witters@state.vt.us
<http://www.vtwaterquality.org/stormwater.htm>

From: Krebs and Lansing [mailto:email@krebsandlansing.com]
Sent: Sunday, May 19, 2013 4:57 PM
To: Witters, Christy; Monks, Padraic
Cc: 'Lani Ravin'; 'Linda E. Seavey'
Subject: RE: Fwd: RE: Stormwater MS4 Permit Issued

Hi Christy,

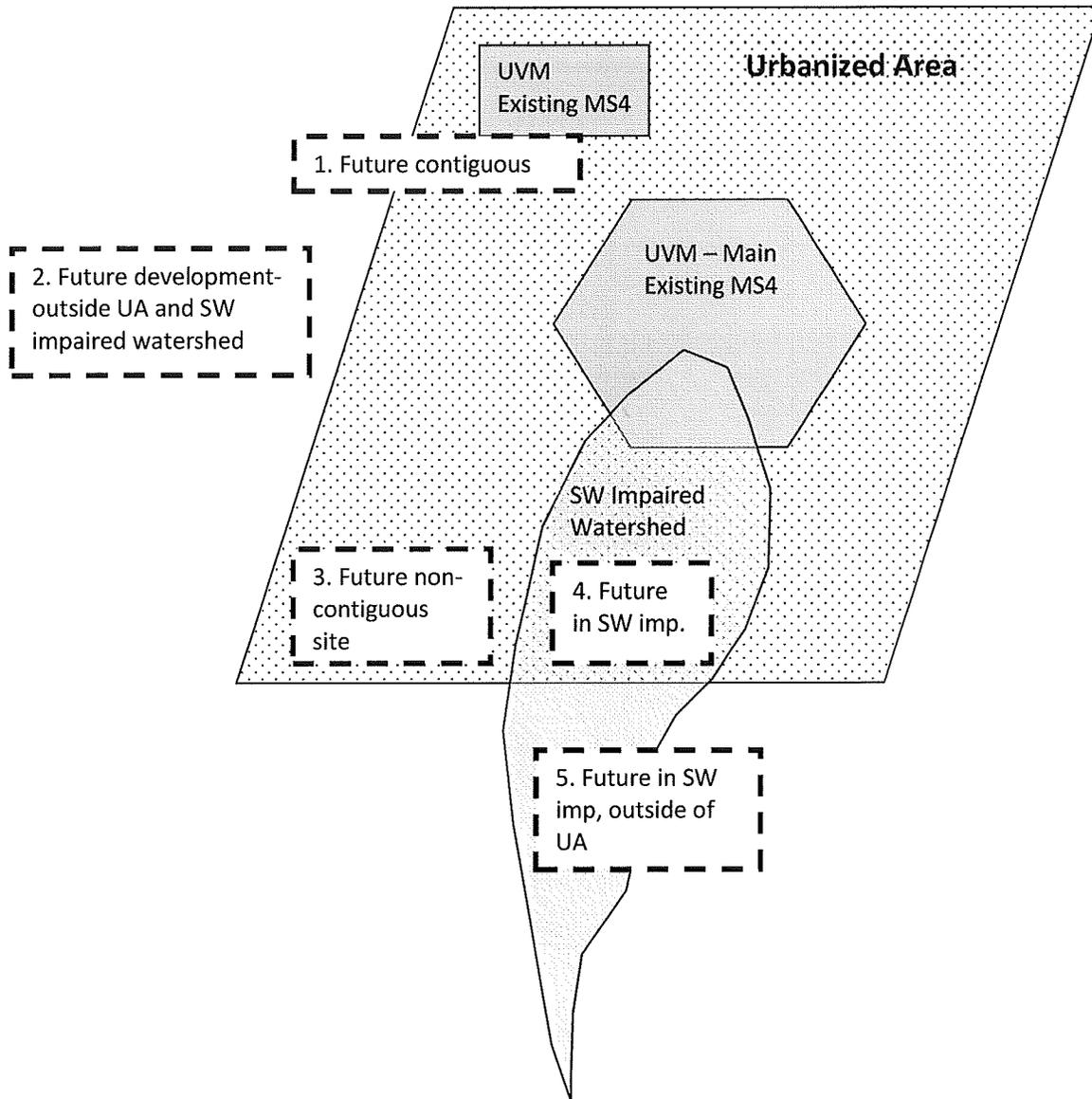
UVM is completing its NOI these next couple weeks. We met back on January 7th about many topics including the section on Non-traditional MS4's. You mentioned that the Agency would issue a draft clarification on the interpretation of this section. We are concerned that this section could be interpreted a number of ways and would like clarified prior to signing the NOI.

Thanks,
Bill

William H. Nedde III
Krebs and Lansing Consulting Engineers, Inc.
164 Main Street, Suite 201
Colchester, VT 05446
802-878-0375 / 802-878-9618 fax
Bill.Nedde@krebsandlansing.com / www.krebsandlansing.com

New Discharges to impaired waters from non-traditional MS4s

Schematic description – May 20, 2013



UVM
Existing MS4

- Any land area where the MS4 is located as of December 5, 2012 (effective date of the MS4 permit)

1. Future contiguous

- Any future land holding that is contiguous with the existing MS4 is not a new discharge. This area will be incorporated into the existing MS4 and SWMP.

2. Future development-
outside UA and SW
impaired watershed

- This area does not need an MS4 permit authorization. Only land area within the Urbanized Area and/or the SW Impaired watershed is required to obtain MS4 permit authorization.

3. Future non-
contiguous
site

- Future non-contiguous site, located within the Urbanized Area, that discharges to an impaired water

- without a TMDL: must apply for an individual permit. The Agency may issue an individual MS4 permit for this site or issue an RDA permit for this site.
- with a TMDL: must apply for an individual permit OR meet the conditions on pages 16 and 17 of the permit.

4. Future
in SW imp.

- Future non-contiguous site, located within the Urbanized Area, that discharges to the SW impaired stream: must apply for an individual permit OR meet the conditions on pages 16 and 17 of the permit. These sites can be incorporated in the Flow Restoration Plan and the existing MS4 permit.

5. Future in SW
imp, outside of
UA

- Future non-contiguous site, located outside of the Urbanized Area, but within the SW impaired watershed. These sites are not automatically designated as MS4s under the Department's Designation Procedure, but will need to be affirmatively designated as MS4s by the Department.

**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 2/3^{rds} majority approval of the voting members of the Steering Committee.

10. **Automatic Termination** – This MOU will terminate at the end of Program Year 2018.

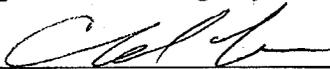
11. **Amendment** – Unless a specific section of this MOU provides otherwise, this MOU may be amended only upon the unanimous consent of all of the Parties.

12. **Adding New MS4 Entities** – New MS4 entities shall be allowed to become party to this MOU with a 2/3^{rds} 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 2/3^{rds} 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

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

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Authorized Signer
The Village of Essex Junction

Date

Brian M. Palaia, Town Manager
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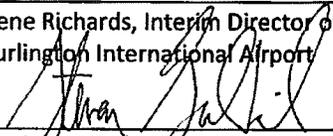
Date

Katherine Decarreau, City Manager
The City of Winooski

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3/27/13

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Regional Stormwater Education Program, MOU, Program Years, 2013-2018

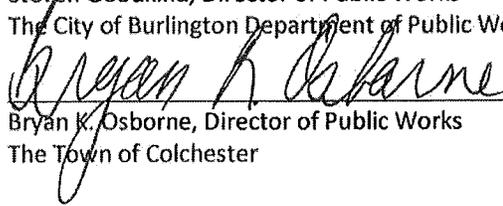
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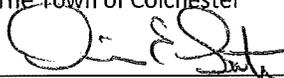
Date

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

Date

Bryan K. Osborne, Director of Public Works
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Date



4/18/13

Dennis E. Lutz, PE, Public Works Dir. / Town Engineer
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Susan McKeown Hill, Interim Co. Mgr.

Authorized Signer
The Village of Essex Junction

4/24/13

Date

Brian M. Palaia, Town Manager
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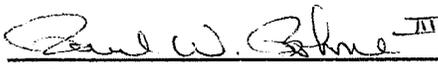
Date

Authorized Signer
The Village of Essex Junction

Date

Brian M. Palaia, Town Manager
The Town of Milton

Date


Paul Bohne, Town Manager
The Town of Shelburne

3/28/13
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Brian M. Palaia, Town Manager The Town of Milton	Date
Dean Pierce, Director of Planning and Zoning The Town of Shelburne <i>Be A</i>	Date 4/1/13
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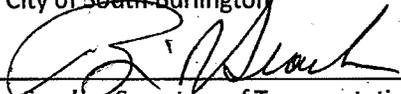
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03/29/13
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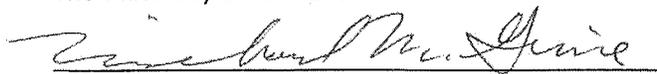
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Richard McGuire, Town Manager
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_____ Richard McGuire, Town Manager The Town of Williston	_____ Date
_____  Katherine Decarreau, City Manager The City of Winooski	_____ 4.11.13 Date

**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 it 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.

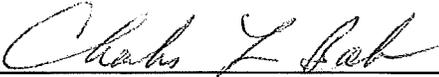
- c. **Other Funds** – Any funds made available to the Program shall be dedicated to reducing the annual costs of each MS4 participating in the Program, except as a majority of the voting members of the Steering Committee may decide.

- 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.

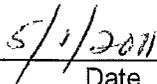
7. **Contracts Required** – All contracts with Contractors to provide Program Services shall be conditioned upon approval by a majority of the voting members of the Steering Committee and consistent with Section 4 above.

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

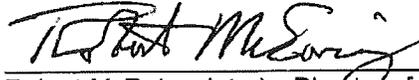


Charles Baker, Executive Director
Chittenden County Regional Planning Commission



Date

Signatures of Members



Robert McEwing, Interim Director of Aviation
The Burlington International Airport

5/3/11
Date

Steven Goodkind, Director of Public Works
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The Town of Colchester

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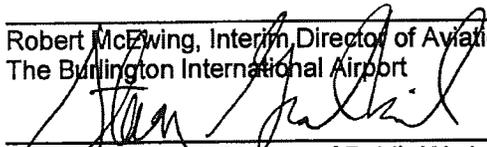
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Katherine R. Decarreau, City Manager
The City of Winooski

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Date

4/15/11

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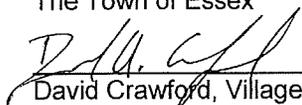
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The Town of Colchester

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5/27/2011

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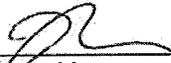
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Bryan K. Osborne, Director of Public Works
The Town of Colchester

Date

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

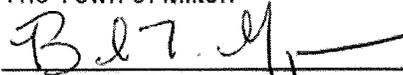
Date

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

3/31/11

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

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

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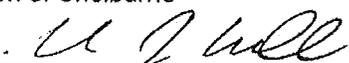
Date

Brian Palaia, Town Manager
The Town of Milton

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

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Sanford I. Miller, City Manager
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3-22-11

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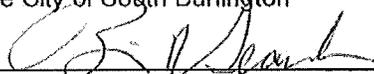
Date

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

3/23/2011
Date

Linda Seavey, Director, Campus Planning Services
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Brian Searles, Secretary of Transportation
Vermont Agency of Transportation

Date

Linda Seavey

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

4.20.11

Date

Richard McGuire, Town Manager
The Town of Williston

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The City of Winooski

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The City of South Burlington

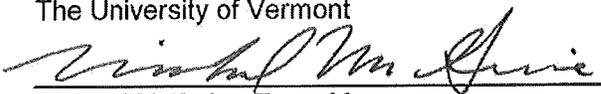
Date

Brian Searles, Secretary of Transportation
Vermont Agency of Transportation

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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

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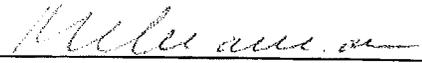
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Richard McGuire, Town Manager
The Town of Williston

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Katherine R. Decarreau, City Manager
The City of Winooski

Date

3-29-11