

Municipality/Organization: Town of Millbury, MA
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Annual Report Number & Reporting Period: Year 11
April 1, 2013 – March 31, 2014

NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2014)

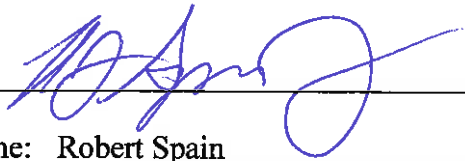
Part I. General Information

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Certification:

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

Signature:



Printed Name: Robert Spain

Title: Town Manager, Town of Millbury

Date:

4/28/14

Part II. Self-Assessment

The Town of Millbury has performed the required self-assessment and determined that, based on available information, our municipality is in compliance with the terms of our General Permit. Any exceptions to this are detailed in Part III below.

Narrative

In Permit Year 11, the Town of Millbury continued to be an active participant in the Central Massachusetts Regional Stormwater Coalition (the Coalition). The Coalition's work in Year 11 was funded by a \$115,000 fiscal year 2013 (FY2013) Community Innovation Challenge (CIC) grant from the Massachusetts Executive Office of Administration and Finance. This grant was supplemented by a contribution of approximately \$2,800 from each of the 30 Towns, including Millbury.

Overview of the Coalition

The FY2013 Coalition communities included 13 communities that formed the Coalition during the previous year (Auburn, Charlton, Dudley, Holden, Leicester, Millbury, Oxford, Paxton, Shrewsbury, Spencer, Sturbridge, Webster, and West Boylston) plus 17 new "Expansion" Towns (including Boylston, Grafton, Hardwick, Hopkinton, Monson, Northbridge, Northborough, North Brookfield, Palmer, Rutland, Southbridge, Sterling, Upton, Uxbridge, Ware, Westborough, and Wilbraham).

The FY2013 work included numerous technical tasks focused on compliance with the 2003 Massachusetts MS4 Permit, although much of the Coalition's work prepares the communities to comply with requirements anticipated in the pending 2014 Massachusetts MS4 Permit. The Coalition's FY2013 efforts were facilitated by the consulting firms of Tata & Howard, Inc., and Verdant Water, supported by vendor PeopleGIS. However, the Coalition members themselves are responsible for putting the tools developed by the Coalition to use.

The FY2013 effort included monthly meetings of the Coalition Steering Committee, several formal training workshops, and other presentations. Millbury Director of Public Works is an active member of this Steering Committee, and a founding member of the Coalition.

One (1) member of Millbury's Department of Public Works (DPW) attended a September 17, 2013 training workshop in Grafton and one (1) member attended a September 26, 2013 training workshop in Charlton. Both of these workshops provided refresher training the tasks the Coalition had completed in FY2012.

Two (2) Millbury DPW members participated in a November 20, 2013 workshop in Holden, which provided training to all 30 communities on water quality monitoring (including how to use the Coalition's field kits and meters), communicating illicit discharge detection and elimination (IDDE) information and needs with other departments and officials in a community, using the data management tools within the online inspection and mapping platform, and more.

The Coalition's Partnerships in Central Massachusetts

The Coalition is actively engaged with many water quality agencies and organizations and is committed to sharing the knowledge it has developed for the benefit of other communities.

The Coalition expanded its partnership with the Massachusetts Department of Environmental Protection (MassDEP) in FY2013, formally including budget in its FY2014 CIC Grant Application to support and assist in development of the stormwater-focused Interactive Qualifying Project (IQP) with four students at the Worcester Polytechnic Institute (WPI). The IQP underway in spring 2014 is the third such project the Coalition is doing in conjunction with MassDEP and WPI.

The IQP that was completed in Fall 2013 developed two products that will be highly useful to Coalition communities:

1. A Compliance Checklist, evaluating the 2003 Massachusetts MS4 Permit and looking forward to the pending 2014 Massachusetts MS4 Permit (based on the Draft 2013 New Hampshire MS4 Permit). This serves as a tool for Coalition communities to identify their most critical priorities as in preparation of the new MS4 permit and fully compliments the Coalition's other tasks.
2. A Catchment Ranking tool, which processes user input including water quality screening data, land use and development, history of illicit discharges, and other criteria to suggest ranking into one of the four catchment categories defined in the Draft 2013 New Hampshire MS4 Permit.

Many Coalition communities are working again in spring 2014 with the WPI IQP project, benefiting from the students' mapping and inspection services. The spring 2014 WPI IQP project is also performing a detailed review of municipal stormwater management programs. In this task, the students- with assistance from CMRSWC consultants and MassDEP- will quantify the actual cost of each Town's stormwater program. This knowledge will serve as the foundation for ongoing discussions about how each community will fund future stormwater programs.

Further documentation of the Coalition's dedication to stormwater management is evidenced by its coordinating with several other groups with a similar stormwater focus- some existing and some just developing- that are also funded at least in part by CIC Grants. These include:

- The Merrimack Valley Stormwater Collaborative (coordinated by the Merrimack Valley Regional Planning Commission);
- The Neponset Valley Regional Stormwater Collaborative (coordinated by the Metropolitan Area Planning Council);
- The Northern Middlesex Stormwater Collaborative Expansion (coordinated by the Northern Middlesex Council of Governments);
- The Southeastern Massachusetts Regional Stormwater group (just forming, coordinated by the Southeast Regional Services Group); and
- The North Suburban Planning Council (also coordinated by the Metropolitan Area Planning Council).

The benefits of collaboration between these groups include:

1. - Sharing the tools that the Coalition developed in FY2012 and FY2013 with other groups, honoring the goal of the CIC Grant Program that funded projects produce deliverables that can be shared regionally;
2. - The ability to utilize organic, innovative projects being developed and implemented by those groups that focus on additional stormwater management or education opportunities that the Coalition had not specifically addressed; and
3. - Reducing redundancy or scope overlap in projects funded by the CIC Grant Program.

In Year 11, the Coalition began to coordinate with the Massachusetts Coalition for Water Resources Stewardship, and will present on its work at its 5th Annual Water Resources Strategies Symposium, to be held on Friday, May 16, 2014.

Finally, the Coalition has initiated conversations with technical assistance staff in USEPA Region 1, with the goal of benefiting from knowledge and experience of the agency's staff and from its network. An example of this outreach to the agency is the March 26, 2014 presentation by USEPA Region 1's Josh Secunda, which the Coalition hosted at MassDEP's Central Office in Worcester. Mr. Secunda's presentation focused on the critical role of engaging community stakeholders in the evaluation and decision-making processes that are part of

developing a sustainable stormwater funding program. Millbury Director of Public Works Robert McNeil attended this presentation, as did representatives from many of the other stormwater groups listed previously. When the actual municipal stormwater program budgets quantified by the spring 2014 WPI IQP student project are evaluated through the lens of Mr. Secunda's presentation, the Coalition believes the result will be a new motivation for many communities to review their current funding approach.

In March 2014, the Coalition met with representatives of USEPA Region 1, encouraging the agency to take an active role in sharing the materials produced by the Coalition (and similar groups) across the state, for the benefit of all MS4 communities. We are supported in this goal by the Massachusetts Municipal Association.

The Coalition intends to submit formal comments to USEPA when the 2014 Draft Massachusetts MS4 Permit is issued.

Representatives of the Coalition presented its work at the following other events in Year 11:

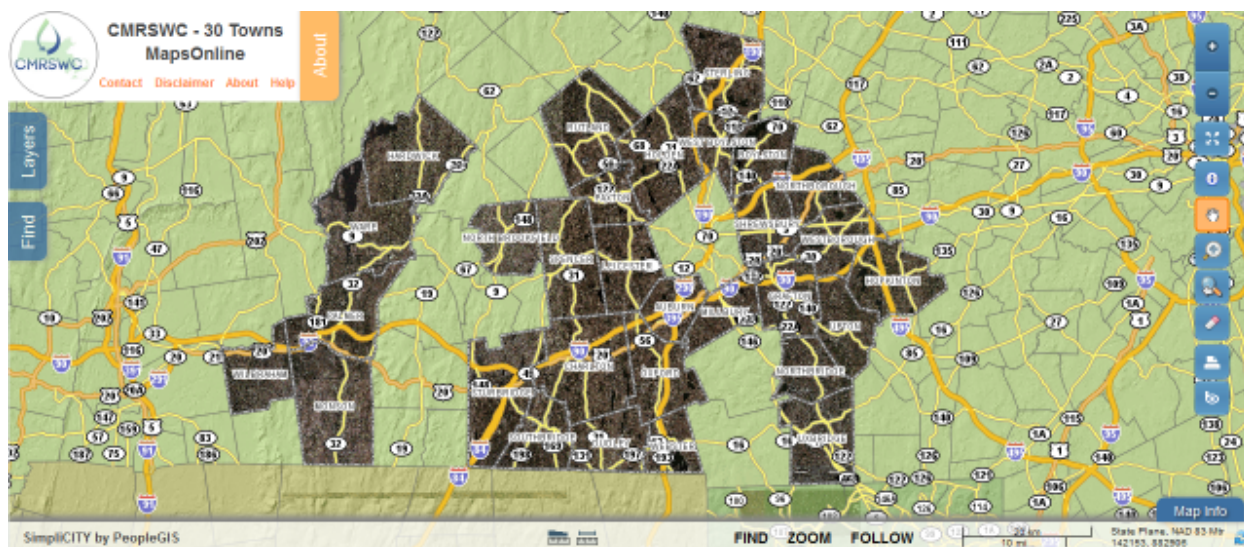
- *"Doing More With Less: The Benefits of Stormwater Regionalization Within Your Watershed"*, in Woonsocket, RI on September 30, 2013, at a workshop sponsored by MassDEP and Rhode Island's Department of Environmental Management;
- *"Managing Stormwater for Water Supply Protection"*, in Worcester, MA on December 3, 2013, at a Drinking Water Source Protection seminar sponsored by USEPA Region 1.

The Coalition has already given additional presentations in Year 12 to other organizations, with more planned.

Tasks Included in this Annual Report

In the following sections, descriptions of the technical tasks and resources made possible by the CIC grant funding have been separated into sections that mirror the six Minimum Control Measures (MCM's) in the 2003 Massachusetts Small MS4 Permit.

One of the more innovative tools- developed by the Coalition in Year 10 and expanded in Year 11- supports many MCM's and has been noted separately: an integrated online mapping and inspection database. The database is cloud-based, and can be accessed by all 30 member communities through a desktop or tablet computer. Below is a screen shot of the platform showing the extent of Coalition communities.



In Permit Year 10, Millbury's stormwater system mapping data was converted to a project standard format and - uploaded to the online platform. In Permit Year 11, Millbury's activities focused on inspecting existing outfalls - and other structures, and adding catch basins and drain manholes to the system. All 30 communities can see -

each other's infrastructure, but each maintains full control over their asset information and water quality data. This tool represents the essence of the Coalition project's message, which is that stormwater is regional- it doesn't stop at a community boundary.

All mapped infrastructure is connected to inspection reports that mirror hard-copy forms developed in Year 10 in the 15 Standard Operating Procedures discussed under MCM 1, below: for example, outfall and catch basin inspections. The developed integrated mapping and inspection system is so comprehensive and flexible that does not fit into just one of the MCM's. It aids communities with public education and outreach (MCM 1), as surveying is a highly-visible activity that will generate questions, and would make an engaging demonstration to school groups). The integrated mapping and inspection database documents evidence of potential illicit discharges or the absence thereof (MCM 3), aids construction site stormwater control (MCM 4) by allowing for data evaluation of how much sediment is contained in a sump, and makes good housekeeping (MCM 6) easier by collecting data on how often catch basins are cleaned. Other tasks and tools of the project connect to the integrated mapping and inspection database, which was designed to serve the needs of the Coalition communities well beyond the 2003 Massachusetts Small MS4 Permit.

Each of the online forms is fluid- many were updated in Year 11 and will continue to be revised, as needed, to meet the goals of the Coalition members and the Massachusetts MS4 Permit requirements.

Minimum Control Measure 1: Public Education and Outreach

In Year 11, Millbury continued to benefit from materials appropriate for public education and outreach, with materials on a variety of topics, which were compiled or developed by the Coalition in Year 10. The topics included illicit discharge detection and elimination, management of pet wastes, and appropriate use of fertilizer, among others. These materials are all available on the Coalition's website, www.CentralMAStormwater.org. The benefit of this delivery format is that the group members can print materials on demand. Millbury also has access to presentations on stormwater management, with content focused on educating the general public, elected officials, and volunteer groups.

Millbury continued to have access to water quality monitoring kits from the World Water Monitoring Challenge program (www.worldwatermonitoringday.org), purchased by the Coalition in Year 10. These kits "build public awareness and involvement in protecting water resources around the world by engaging citizens to conduct basic monitoring of their local water bodies". Several communities used this in Year 11 to work with teachers in their local school department or district to do outreach to elementary and middle-school aged students. The kits are being stored in Spencer and Shrewsbury for distribution to the Coalition members.

Millbury continued to have access to an Enviroscope table focused on non-point source pollution education (<http://www.envirosopes.com/nonpoint-source.html>), purchased by the Coalition in Year 10. This tool is a hands-on, visual trainer to demonstrate the importance of good housekeeping and low-impact development for pollution prevention, with the objective of maintaining water quality in our communities.

The Coalition continued to expand its educational website, www.CentralMAStormwater.org, focused on providing information about the project to a number of audiences, including the general public, educators, and kids. In Year 11, a members-only area was created within this website to share materials for communities to review.

Minimum Control Measure 2: Public Involvement and Participation

In Year 11, Millbury continued to have access to several presentations on stormwater management, with content focused on educating elected officials and municipal department heads about the requirements of the 2003 Small MS4 Program, changes likely in the anticipated 2014 Massachusetts MS4 Permit, and the financial

impact these potential changes may have on Massachusetts communities.

Minimum Control Measure 3: Illicit Discharge Detection and Elimination

The Coalition provided training at two Year 11 workshops (September 17 and 26, 2013) on SOP 10, “Locating Illicit Discharges”, intended to define the types of illicit discharges that may be observed in the Coalition communities and provide guidance on tools that can be used to identify each. SOP 10 includes an Illicit Discharge Incident Tracking Sheet.

The Coalition provided training in Year 11 at a workshop on November 20, 2013 on the Coalition’s Illicit Discharge Detection and Elimination (IDDE) Documentation Packet, which specifies how illicit discharges are detected and what department or person is responsible for eliminating them. Identifying and removing illicit discharges, and ensuring that they are not reconnected, remains a substantial challenge to many MS4 communities. Without documentation of the entity responsible for this task for a variety of types of illicit discharge, communities may not satisfy the requirements of the 2003 Massachusetts Small MS4 Permit and may be unprepared for increased IDDE compliance in the new Small MS4 Permit. This deliverable clarified USEPA’s minimum IDDE requirements and incorporated appropriate existing IDDE Plans and materials by reference. More importantly, the task provides a framework for people in multiple departments to understand each person’s responsibilities, encourage cooperation and communication toward a single objective, and provide templates for documenting observations, actions, and compliance. The November 2013 training workshop included a comprehensive review of many types of illicit discharges, and an interactive discussion with attendees about how several examples would presently be managed in their own community.

In Year 11 Millbury continued to have access to two Leica surveying devices, an ASUS tablet, and a portable wireless device (MiFi) purchased by the Coalition in Year 10. The Leica units can be used to map new structures with very high accuracy, using connection to a military-grade Real Time Kinematic (RTK) satellite network. Both of these tools can be used to directly access the online mapping and inspection system: the Leica is most valuable for mapping outfalls, catch basins, pipe, drain manholes, BMPs, and other components of the MS4, while the tablet computers will be most valuable for ongoing inspection of the structures. These two activities serve as the foundation of IDDE. The Leica units rotate between the 30 Coalition communities on a schedule, with formal handoff between Towns documented. The Coalition and its members provided refresher training on the Leica device, the tablet computers, and the online mapping and inspection system during Year 11.

In Year 10, the Coalition purchased several water quality field kits and meters, most of which are focused on identifying illicit discharges and aligned with the field screening parameters expected to be listed in the pending Massachusetts Small MS4 permit. In Year 11, the Coalition began the process of rotating these water quality kits and meters around the 30 Coalition communities, including Millbury, on a schedule that follows the use of the Leica device. The objective of this approach was that inspection and mapping activities completed with the Leica may result in a list of outfalls or structures for which screening-level monitoring should be completed. The Coalition provided training on the use of these water quality kits at the workshop on November 20, 2013; this training was professionally recorded so that Towns can review it if and when they need a refresher. Millbury is serving as the primary host facility for the kits and meters, to ensure that they are kept in good working order and that reagent kits and other materials can be replenished, as needed.

The Coalition purchased additional water quality field kits in Year 11, based on materials provided by USEPA Region 1 Technical Assistance staff that summarized products recently approved by the agency for this use. The online inspection and mapping database enables any community to add screening-level or full analytical data to any inspection form, for any type of infrastructure, in the field. The online water quality monitoring forms are pre-populated with the specific water quality field kits and meters purchased and used by the Coalition.

In Year 11, the online mapping and inspection system was expanded for all 30 communities to include the ability to add pipe between structures, and gather data related to that pipe. Prior to Year 11, the system managed only point geometry, such as outfall, catch basin, drain manhole, and Best Management Practice infrastructure. All 30 Coalition communities will benefit from this new linear infrastructure feature, which is consistent with the requirements anticipated in the pending 2014 Massachusetts MS4 Permit based on what is included in the Draft 2013 New Hampshire MS4 Permit.

In Year 11, the Coalition revised the Request for Proposals (RFP) for a third-party firm to perform many of the field or inspection services defined in the 15 SOP's, including outfall inspection (dry weather and/or wet weather), water quality monitoring, catch basin inspection, and other related tasks. These services are all vital to the effort to identify illicit discharges in the Coalition communities. It was originally anticipated that the work of the RFP would be funded using FY2013 CIC monies. However, in Year 11, the Coalition Steering Committee voted to postpone putting the RFP out to bid, based on the fact that the new Massachusetts MS4 Permit has not yet been issued. This RFP will be re-evaluated in Year 12.

In Year 11, the Coalition performed a review of industrial facilities located in each of the 30 FY2013 communities, including facilities that applied for coverage under the USEPA's Multi-Sector General Permit (MSGP) program, and the compliance status of each. The objective of this activity was to connect data from the two permit programs, consistent with requirements anticipated in the pending 2014 Massachusetts MS4 Permit.

Finally, Millbury is planning to host a demonstration for Coalition members of Environmental Canine Services for May 2014 (in Year 12). This company uses highly-trained dogs to detect the presence of human sewage very low levels in water, and represents a quick and cost-effective screening tool for locating illicit discharges.

Minimum Control Measure 4: Construction Site Stormwater Runoff Control

In Year 11, Millbury DPW staff received refresher training on SOP 6, "Erosion and Sedimentation Control", developed in Year 10, which is intended to help communities minimize discharges from land disturbing activities. The SOP addresses design, planning, construction, and inspection tools and activities that can serve as BMPs. The SOP also outlines inspection requirements for a variety constructed BMPs that need to serve a long-term purpose for protecting surface waters from discharge of sediments.

Construction activities- including erosion control, stormwater pollution prevention, and appropriate management of waste materials- are also covered in the Stormwater Best Management Practices (BMP) Toolbox, development of which began in Year 10 and which was finalized in Year 11. The Stormwater BMP Toolbox was written to inform the general public about the importance of managing private construction projects responsibly.

Minimum Control Measure 5: Post-Construction Stormwater Management in New Development and Redevelopment

In Year 11, Millbury DPW staff received training on the Stormwater Best Management Practices (BMP) Toolbox, developed in Year 10 and finalized in Year 11. This tool compiles the stormwater post-development tools currently permitted and encouraged for small development or redevelopment, specifically single-family homes and limited commercial renovations that have a small development footprint. The Stormwater BMP Toolbox provides technical data, design factors, and construction limitations with these BMPs in non-technical language. The Coalition provided training on the Stormwater BMP Toolbox at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops.

The objective was to provide the average property owner with easy-to-understand information that encourages them to select low-impact stormwater management tools for their properties, construct them safely, and maintain them for long-term benefit. The BMPs in the Toolbox are consistent with the requirements of the current Small MS4 Permit, the Massachusetts Stormwater Handbook (February 2008), and other current guidance documents.

Minimum Control Measure 6: Pollution Prevention and Good Housekeeping in Municipal Operations

In Year 11, Millbury continued to have access to the Stormwater Pollution Prevention Plan (SWPPP) template in the form of a word processing document. The Coalition provided training on the SWPPP Template at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops. This document was developed in Year 10 and addresses elements common to all SWPPPs, including storage of materials, site inspection practices, water sampling, training, spill prevention and cleanup, Standard Operating Procedures for a number of activities, and other sections. The SWPPP template covers many types of municipal properties. This includes highway department garages and public works yards- where salt is stored and vehicle maintenance or storage is completed- as well as parks, golf courses, and cemeteries, where fertilizers and pesticides may be applied and lawn mowing activities may result in small spills. The SWPPP template includes built-in instructions to make it as simple as possible for each community to develop a SWPPP for a property, simply by deleting text that doesn't apply.

In Year 11, Millbury continued to have access to 15 Standard Operating Procedures (SOP's) developed by the Coalition in Year 10, and intended to provide guidance on activities required or encouraged by the 2003 Massachusetts Small MS4 Permit. The Coalition provided training on these SOP's at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops. These SOPs addressed such diverse activities or needs as outfall inspection (both dry weather and wet weather), catch basin cleaning, erosion and sedimentation control, oil/water separator maintenance, use and storage of pesticides and fertilizers, and many more. The group developed standard forms and methodologies for these procedures, many of which were incorporated into the Integrated Online Mapping and Inspection System, described in following paragraphs.

In Year 11, Millbury continued to have access to two presentations developed in Year 10 on pollution prevention in stormwater management, with content focused on educating employees of public works, engineering, conservation, planning, highway, and other similar municipal departments on the requirements of the 2003 Small MS4 Program. The Coalition provided training on how to use these presentations to educate staff at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops. One presentation is focused on using the SWPPP Template and the responsibilities of municipal personnel to implement requirements of the SWPPP, and the second training presentation provides explanation and insight on the 15 SOP's described previously.

In Year 11, Millbury continued to have access to a Sump Pump Discharge Policy developed in Year 10 that provides a framework for the member communities to respond to needs to remove sump pumps from the sanitary sewer system without causing property damage or creating a hazardous condition for the public. The Coalition provided training on the Sump Pump Discharge Policy at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops. The Policy discusses considerations related to potential contamination and reduction in capacity of the storm drain system when sump pumps are permitted to connect to the drainage system, and lays out a situational approach to provide flexibility in administering a policy. The Policy includes guidance for when such a connection should be considered, what information the municipality can request from a residential or commercial property to guide in its decision, and outlines the responsibilities of the property owner.

In Year 11, Millbury continued to have access to a Salt/Sand Benchmarking tool developed in Year 10 to guide

member communities in calibrating deicing equipment. The Coalition provided training on the calibration approaches and spreadsheets at two Year 11 workshops (September 17 and 26, 2013); one Millbury DPW staff member attended each of these workshops. The Benchmarking tool calculates the present loading rate of chloride (per lane-mile) presently applied by its salt trucks and other municipal vehicles, regardless of the compound (e.g.: sodium chloride, green salt, calcium chloride) or form (e.g., solid or liquid, mixed with sand), and in evaluating alternative application methods and materials to current practices. The Benchmarking tool deliverable guides communities through two different equipment calibration processes and suggests a target reduction rate that is coupled to and appropriate for the benchmarked loading rate. The objective of this task is to reduce the overall loading of chlorides to surface waters in the region while maintaining safe conditions on roadways. The Town of Millbury DPW is already using an equipment calibration process that is similar to the system developed by the Coalition.

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The Sump Pump Discharge Policy and the Private Drainage Connection SOP (SOP 15) documents both include technical criteria for a member community to evaluate when considering granting approval to residential and/or commercial users to connect such private drainage into engineered storm drain systems within the MS4. However, this approach is not effective in areas where no engineered storm drain system exists. In Year 11, the Coalition finalized an approach to connect pieces of data managed by multiple departments within a community for the benefit of all departments. Specifically, the task merges knowledge of areas where high inflow (i.e., sump pumps and drainage connections) to the sanitary sewer has been identified but where no engineered storm drain system exists. This knowledge includes drainage Capital Improvement Plan (CIP) categories and fields to prioritize the extension of the engineered drain system, within the parameters of the Sump Pump Policy and the Private Drainage Standard Operating Procedure, to reduce inflow to the sanitary sewer while protecting surface water quality. In Year 11, the Coalition provided training on the Drainage Extension Approach at the November 20, 2013 training workshop, which two Millbury DPW staff members attended.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
1	Create a Stormwater Program	Department of Public Works, Planning Board, Conservation Commission, Board of Health, Board of Selectmen	Millbury will present to the public at a public meeting Millbury's Comprehensive Stormwater Management Program.	Measurable goal completed in previous permit years.	No further action required at this time.
2	Create Stormwater Program	Department of Public Works	Millbury will identify appropriate sources of funding assistance (SRF, 319 Grant Program, 604(b) Grant Program, Lakes & Ponds Grant Program, Source Water Protection Grant Program, Recycling Grant Program) and apply for assistance in implementing portions of Millbury's Comprehensive Stormwater Management Program, including public education and outreach.	Measurable goal completed in previous permit years. Millbury actively participated in stormwater management activities as one of 30 municipalities involved in the CMRSWC. In Permit Year 11, the Town applied for a Sustainable Water Management Initiative (SWMI) grant to construct a storage tank to capture rainwater for use in the DPW's jetting and street sweeping equipment. This grant was not awarded.	Millbury will continue to participate in the CMRSWC. Millbury is considering 319 and/or 604(b) grant applications for stormwater improvements on Croydon Street and Dorothy Pond to alleviate flooding and capture sediments before discharge into Dorothy Pond. Work would improve the performance of previously installed vortex BMPs. A second project under consideration, pending grant funding, is implementing a culvert habitat connectivity study to incorporate stormwater improvements, including adequate flow capacity. Millbury will continue to evaluate the suitability of SWMI grants to fund projects that decrease runoff and/or encourage stormwater treatment and infiltration.

3	Address specific groups	Department of Public Works	Distribute EPA and other relevant educational brochures to targeted audiences. Distribution points include Town Hall, Library and Transfer Station.	In Permit Year 11, stormwater educational messages were distributed at a Household Hazardous Waste (HHW) Collection event on June 8, 2013. The DPW Director includes stormwater management in the monthly report provided to the Board of Selectmen. These meetings are advertised, open to the public, and shown on the local cable access channel.	Millbury will continue to distribute stormwater educational messages at events such as the HHW Collection Event planned for June 28, 2014 in Permit Year 12. Continue to use monthly meetings of the Board of Selectmen as a way to inform the public of stormwater management activities.
4	Target groups likely to impact stormwater	Department of Public Works	Brochures targeting specific audiences and activities will be available. These target groups include homeowner and lawn maintenance activities, disposal of household waste and pet maintenance.	Basic stormwater educational messages distributed.	Millbury will continue to distribute stormwater educational messages.
5	Identify alternate information sources	Department of Public Works, MIS Department	Millbury will post links to stormwater BMPs and other water quality education resources, including EPA and DEP on its website. http://www.millbury-ma.org/ . Millbury will post links to Our Lady of Assumption School student storm drain project (www.sdwgt.tripod.com/). The Town will work with Lake Singletary Watershed Association in the collection and dissemination of data from the association's sampling program. Data will be posted on Town website along with relevant BMPs for target audiences.	The Lake Singletary Watershed Association sampling data was distributed to association members and other interested parties.	The Town will incorporate new outreach activities as elements of the next five year Permit term.

6	Identify alternative information sources	Department of Public Works, MIS Department	The Town of Millbury will contact Blackstone River Watershed Council to review opportunities in Millbury. These opportunities include hosting a watershed association meeting in Millbury with notice on website and local access channel, and televising a meeting reviewing watershed activities or needs specific to Millbury.	Town continued to work with the Lake Singletary Watershed Association (LSWA), the Dorothy Pond Restoration Committee (DPRC), and the Blackstone River Watershed Council (BRWC) to support their programs and events. In Permit Year 11, the Town of Millbury hosted a workshop by Joe Delaney from MassDEP that reviewed case studies of stormwater utilities in MA, on June 26, 2014.	Continue ongoing efforts to identify partners within the community who can assist in educating Millbury's stormwater stakeholders. The Town plans to host a demonstration of Environmental Canine Services for CMRSWC member communities in May 2014. These services can supplement any existing IDDE program by providing cost-effective, real-time feedback on potential illicit discharges.
7	Utilize local public access channel.	Department of Public Works	Public meeting notice and a meeting reviewing Millbury's Comprehensive Stormwater Management program will be posted/broadcast on Millbury's local access channel.	Measurable goal completed in previous permit years.	No further action required at this time; however, local access channel will continue to air stormwater announcements.

8	Develop, conduct and document educational programs.	Department of Public Works Selectmen Liaison	The Town of Millbury will contact Blackstone River Watershed Council to review opportunities in Millbury. These opportunities include hosting a watershed association meeting in Millbury with notice on website and local access channel, and televising a meeting reviewing watershed activities or needs specific to Millbury. The Dorothy Pond Restoration Committee and the Ponds and Lakes Commission (appointed by the Town) will post meeting and event notices on the Town of Millbury's web page. Special events and seminars with guest speakers will be televised on Millbury's local access channel.	In Permit Year 11, the DPW conducted an art contest with the local school district. Students competed to design a mural for National Public Works week. The selected design was painted onto a DPW plow blade. The DPRC and the Ponds and Lakes Commission (appointed by the Town) posted meeting and event notices on the Town of Millbury's web page.	The Town will consider replicating the National Public Works mural contest in Permit Year 12. The Town plans to place an article on the Environmental Canine Services demonstration event in the Worcester Telegram and the Millbury-Sutton Chronicle and post a notice on the Millbury cable access channel and the DPW website. This is a good opportunity to remind the general public of the level of service the Town provides. The DPRC and the Ponds and Lakes Commission (appointed by the Town) will continue to post meeting and event notices on the Town of Millbury's web page. Special events and seminars with guest speakers will be televised on Millbury's local access channel. New opportunities will be considered as elements of the next five year term.
9	Promote Household Waste Recycling	Department of Public Works, Board of Health	The Town of Millbury will work with its contracted waste hauler and the Board of Health to continue to sponsor Hazardous Waste Collection days.	Measureable goal completed in previous permit years. In addition to the annual formal Household Hazardous Waste (HHW) collection day, the Town accepts HHW- including Universal Wastes (fluorescent light ballasts, cathode ray tubes [CRTs], etc), waste oil, used batteries, and latex paints- at its transfer station.	Recycling and HHW collection is expected to continue.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
10	Storm drain stenciling	Department of Public Works	The Town of Millbury will work with local students at Our Lady of Assumption School in continuing its support of storm drain stenciling by students.	Measurable goal completed in previous permit years. School provided stenciling during Permit Years 1-4.	Additional storm drain stenciling programs and/or the installation of inset medallions will be considered as an element of the next five year term.
11	Community clean-ups	Department of Public Works, Millbury Conservation Commission	The Town of Millbury will encourage local stream team cleanups with local residents and area Scout groups. The Town will provide solicitation of sponsors and notice of events on local access channel and website.	Lake Singletary Watershed Association hosted several cleanup days during the year, including one in late March 2014 that was assisted by the DPW. In Permit Year 11, the Town cleaned 18 Stormceptor vortex BMP units in conjunction with activities of the Dorothy Pond Restoration Committee. In Permit Year 11, the Town completed swale cleanups on Martin Street, Providence Street, Washington Street, and McCracken Road.	The Town will continue to support area cleanups.
12	Community clean-ups	Department of Public Works	Town will provide trucks and other material to support cleanup efforts and disposal of materials.	Town picked up and disposed of materials from cleanups.	The Town will continue to support area cleanups.

3. Illicit Discharge Detection and Elimination

13	Inventory and mapping of storm drain system	Department of Public Works	The Town of Millbury will identify appropriate sources of funding assistance (SRF, 319 Grant Program, 604(b) Grant Program, Lakes & Ponds Grant Program, Source Water Protection Grant Program, Recycling Grant Program) and apply for assistance in implementing portions of its Comprehensive Stormwater management Program, Including public education and outreach.	Measurable goal of mapping outfalls was completed in previous permit years. In Permit Year 11, the Town focused efforts on using the online mapping and inspection system to map and inspection catch basin, drain manhole, and pipe structures as well as any new outfalls constructed. The online system currently includes 1,210 catch basins.	In Permit Year 12, the Town will continue to focus on mapping additional system structures and inspecting existing structures. Additional information relative to state road outfalls will be sought as part of the next five year program.
14	Mapping and identification of outfalls and receiving waters	Department of Public Works, Board of Assessors	Millbury will develop and implement a plan to map all outfalls and receiving bodies of water, contingent on Town Meeting approval of funding.	Measureable goal (map of outfalls and receiving waters). completed in previous permit years	In Permit Year 12, the Town will continue to focus on mapping new outfalls that are constructed and inspecting existing outfalls.
15	Identification/ description of problem areas	Department of Public Works	The Town of Millbury will develop and implement an Illicit Discharge Detection and Elimination (IDDE) plan, contingent on Town Meeting approval of funding.	Measurable goal completed in previous permit years. In Permit Year 11, outfall inspection and catch basin mapping and inspection by the Millbury DPW did not indicate the presence of any illicit discharges. Several sump pumps were removed from the sanitary sewer and discharged to daylight. Mapping and inspections completed in Year 11 fully utilized the CMRSWC online platform and equipment.	The Town will continue to implement the IDDE Program, including using the Coalition's water quality field kits and meters for outfall and catch basin monitoring.

3. Illicit Discharge Detection and Elimination *(continued)*

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
16	Enforcement procedures addressing illicit discharge	Department of Public Works <i>Revised:</i> Department of Public Works/ Code Enforcement	The Town of Millbury will review whether local authority is appropriate and able to respond to potential illicit discharges. New by-laws, if necessary will be proposed to Town Meeting.	Measurable goal (enforceable IDDE program) completed in previous permit years. All new building foundations continue to be inspected by the Plumbing Inspection before a sewer connection permit is issue, to ensure that there are no cross-connections or potential illicit discharges to the storm drain system.	Continue enforcement of bylaw and inspection of new construction for illicit discharges.
17	Public information program regarding hazardous wastes and dumping	Department of Public Works, Board of Health	The Town of Millbury will provide educational brochures to residents promoting proper disposal of household hazardous wastes and conditions for regional collections	Recycling/disposal programs continued and were advertised to residents.	Continue ongoing efforts.
18	Initiation of recycling programs	Planning Board, Board of Health	Millbury will apply for funding assistance from DEP's Recycling Grant Program for assistance in public education and the purchase of recycling materials.	Recycling program established in prior permit years, and continued throughout this permit year.	Millbury expects to continue the recycling program.
19	Watershed assessments and studies	Department of Public Works, Conservation Commission, Board of Health	Millbury will identify opportunities for funding assistance from DEP's 604(b) and 319 grant programs and the Department of Environmental Management's Lake and Ponds Grant Program to support watershed assessment and implementation activities. Task can include design and installation of stormwater BMPs and public outreach including storm drain stenciling. Emphasis will be on assessments and remediation for stormwater related problems impacting water quality in Brierly Pond, Dorothy Pond, Hathaway Pond, Howe Pond, Howe Reservoirs, Slaughterhouse Pond and Woolshop Pond. These waterbodies have been identified as impaired and on DEP's 303d list.	Millbury obtained 319 grant and CWSRF loan for stormwater activities in prior permit years. No additional funding grants/loans were obtained during this permit term, although the Town applied for a stormwater-related SWMI Grant. Town volunteers participated in BRWC water quality sampling effort.	Millbury will continue to look for funding and public participation opportunities for assessments/ studies in the local watersheds. In Permit Year 12, the Town will continue using the Coalition's water quality field kits and meters for outfall and catch basin monitoring.

3. Illicit Discharge Detection and Elimination *(continued)*

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
20	Watershed assessments and studies	Department of Public Works, Public Water Suppliers	The Town of Millbury will encourage the Massachusetts American Water Works Co. to apply for funding assistance from DEP's Source Water Protection Program for grant assistance to develop wellhead protection plans and stormwater management plans within Zones II. These plans can include stormwater management programs. The proposed tasks will include a public education component. The Lake Singletary Watershed Association will be consulted and asked to provide educational data from their studies and monitoring of Lake Singletary for posting on Millbury's local access channel and website.	LSWA water quality data was distributed to members and other interested parties.	Millbury will continue to work on its Source Water Protection Program and seek data from the Lake Singletary Watershed Association for distribution.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
21	Bylaw: Storm water management regulations for construction sites 1 acre or larger	Planning Board, Conservation Commission, Town Counsel, Board of Health, ZBA	Millbury will review model by-law developed by DEP in consultation with the Attorney General's Office.	Measurable goal (development of bylaw) completed in previous permit years. In Permit Year 11, one proposed site plan was reviewed by the Planning Board in conjunction with the Conservation Commission that required a Stormwater Permit. Construction of the project has not yet started.	No further action required at this time. The DPW will work with the Planning Board to ensure that inspections of the approved project will occur during and after construction.

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

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
22	Bylaw: Require post-construction runoff controls	Planning Board, Conservation Commission, Town Counsel, Board of Health, ZBA	Millbury will review model by-law developed by DEP in consultation with the Attorney General's Office.	Measurable goal completed in previous permit years. In Permit Year 11, the Town cleaned 18 Stormceptor vortex BMP units in conjunction with activities of the Dorothy Pond Restoration Committee. In Permit Year 11, the Town incorporated stormwater BMPs into the design of a new fueling station to be constructed at the DPW facility. This design includes a rain garden, vegetated swales, a retention basin, and deep sump catch basins in addition to a culvert replacement.	No further action required at this time. Construction of the DPW facility fueling station will be voted on at the May Town meeting.

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 11	Planned Activities
23	Develop a municipal Operations and Maintenance Plan	Department of Public Works	Using regulations and recommendations from the DEP and EPA, Millbury will develop and update an operations and maintenance plan to include proper disposal of street sweepings, catch basin cleanout, snow disposal, roadway de-icing procedures, vehicle washing, and outside storage of materials.	Measurable goal completed in previous permit years. In Permit Year 11, four old catch basin structures were replaced with structures that feature a deep sump. Rip rap and basic maintenance were performed at several outfalls to prevent erosion.	Millbury will continue to follow the O&M plans as described in the SWPPP documents.

24	Develop a municipal Operations and Maintenance Plan	Department of Public Works	Millbury will implement a formal inspection program, including maintenance logs and scheduling, for catch basin cleaning, repairs, and new installation.	Measureable goal completed in previous permit years. In Permit Year 11, the Town completed swale cleanups on Martin Street, Providence Street, Washington Street, and McCracken Road. In Permit Year 11, the Town calibrated hopper-type spreaders on trucks, quantifying the pounds of material applied at each device setting at different speeds. This calibration will be repeated each year. The Town will switch to magnesium chloride (from calcium chloride) as a pre-wetting agent in Permit Year 12. In Permit Year 11, the Town cleaned 100% of all catch basin structures at least once, using its own equipment. Approximately 100 structures were cleaned twice. In Permit Year 11, the Town swept all streets in the Urbanized Area at least once, using its own equipment.. Approximately two miles of roadway were swept twice. Sidewalks in the downtown area were also swept using mechanical means. The Town jetted approximately 300 linear feet of storm drain pipe in Permit Year 11, using its own equipment. Refresher training on the importance of Stormwater Pollution Prevention at municipal facilities was provided by the CMRSWC in Permit Year 11.	Millbury will continue its ongoing O&M program, and keep records of activities undertaken, including calibration sheets and deicing materials. In Year 12, the DPW plans to document how full catch basins are when they are cleaned (using CMRSWC online inspection system) and document structures that may require more than one cleaning per year.
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25	Develop and implement training programs for municipal employees	Department of Public Works	Millbury will send a minimum of 3 public works employees annually to training seminars sponsored by MassDOT, BayState Roads, and other relevant agencies or vendors.	In Permit Year 11, numerous Millbury DPW staff members received training at CMRSWC workshops. Topics addressed included practical illicit discharge detection and elimination tools, and using the Coalition's water quality field kits and meters, among other things. Summary of attendance: - 1 person attended September 17, 2013 workshop; - 1 person attended September 26, 2013 workshop; - 2 people attended November 20, 2013 workshop; - 1 person attended March 26, 2014 presentation. In addition, Town staff received training on smoke testing as a method to identify illicit discharges.	Millbury will continue to train public works employees on stormwater pollution prevention, IDDE, good housekeeping, and other Permit components.
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26	Review storm drainage infrastructure needs	Department of Public Works	Millbury will incorporate storm drain infrastructure review in Millbury's Chapter 90 project utilizations.	Drainage improvements are completed as necessary in conjunction with Chapter 90 projects, and through the Town's I/I program.	Millbury is considering 319 and/or 604(b) grant applications for stormwater improvements on Croydon Street and Dorothy Pond to alleviate flooding and capture sediments before discharge into Dorothy Pond. Work would improve the performance of previously installed vortex BMPs. A second project under consideration, pending grant funding, is implementing a culvert habitat connectivity study to incorporate stormwater improvements, including adequate flow capacity. Millbury will continue to identify opportunities to incorporate stormwater improvements into future capital projects, and grant opportunities available to fund these projects.
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) <<if applicable>>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities
	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Revised					

Part IV. Summary of Information Collected and Analyzed

No additional information was collected or analyzed outside of that identified in Part III above.

Part V. Program Outputs & Accomplishments (OPTIONAL)

(Since beginning of permit coverage unless specified otherwise by a **, which indicates response is for period covering April 1, 2013 through March 31, 2014)

Programmatic

	(Preferred Units)	Response
Stormwater management position created /staffed	(y/n)	Yes
Annual program budget/expenditures **	(\$)	
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc)		General Fund

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	13,000
Stormwater management committee established	(y/n)	No
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1 event plus Working Hrs @ BOH/Transfer Station
▪ community participation **	(# or %)	Unknown
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	Yes

Legal/Regulatory	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted	Draft in Review	Adopted
Regulatory Mechanism Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					X
▪ Erosion & Sediment Control					X
▪ Post-Development Stormwater Management					X
Accompanying Regulation Status (indicate with "X")					
▪ Illicit Discharge Detection & Elimination					N/A
▪ Erosion & Sediment Control					N/A

▪ Post-Development Stormwater Management					N/A
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Mapping and Illicit Discharges	(Preferred Units)	Response -
Outfall mapping complete	(%)	98%
Estimated or actual number of outfalls	(#)	267
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	98%
Mapping method(s)		
▪ Paper/Mylar	(%)	0
▪ CADD	(%)	0
▪ GIS	(%)	100%
Outfalls inspected/screened **	(# or %)	
Outfalls inspected/ screened (Since beginning of permit coverage)	(# or %)	100%
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	3
Illicit connections removed **	(#), (gpd)	0
Illicit connections removed (Since beginning of permit coverage)	(#), (gpd)	3
% of population on sewer	(%)	75%
% of population on septic systems	(%)	25%

Construction	(Preferred Units)	Response -
Number of construction starts (>1-acre) **	(#)	0
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	N/A
Site inspections completed **	(# or %)	N/A
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	0

Post-Development Stormwater Management		
Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	100%
BMP maintenance required through covenants, escrow, deed restrictions, etc.	(y/n)	Yes ¹
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

1 O&M Plan requires maintenance agreement.

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1+/yr
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1+/yr
Qty of structures cleaned **	(#)	~1,300
Qty. of storm drain cleaned **	(%, LF, mi.)	300 LF
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Worcester landfill
Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	
• Hourly or per basin contract rate **	(\$/hr, \$/CB)	
• Disposal cost**	(\$)	
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	1
• Vacuum truck(s) owned/leased	(#)	0
• Vacuum trucks specified in contracts	(y/n)	N/A
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vacuor **	(%)	0%

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1+/yr
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	1+/yr
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Worcester landfill
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	~\$75,000
• Hourly or lane mile contract rate **	(\$/hr, ln.mi.)	N/A
• Disposal cost**	(\$)	\$0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	2
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	No
• % Roads swept with rotary brush sweepers **	%	100%
• % Roads swept with vacuum sweepers **	%	0%

Operations and Maintenance (continued)

	(Preferred Units)	Response -
Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	% NaCl % CaCl ₂ % MgCl ₂ % CMA % Kac % KCl % Sand	95% - - - - - 5%
Pre-wetting techniques utilized **	(y/n or %)	Yes: 500 gal CaCl ₂
Manual control spreaders used **	(y/n or %)	Yes
Zero-velocity spreaders used **	(y/n or %)	No
Estimated net reduction or increase in typical year salt/chemical application rate	(lbs/l _n mi, %)	0%
Estimated net reduction or increase in typical year sand application rate **	(lbs/l _n mi, %)	0%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N/A
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)	Yes

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	0%
▪ Herbicides	(lbs. or %)	0%
▪ Pesticides	(lbs. or %)	0%
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Yes

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n	N/A
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	N/A
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N/A