

Municipality/Organization: North Andover, MA

EPA NPDES Permit Number: MAR041214

MassDEP Transmittal Number: W-034970

Annual Report Number & Reporting Period: Year 10
April 1, 2012 – March 31, 2013

5/1/13

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NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2013)

Part I. General Information

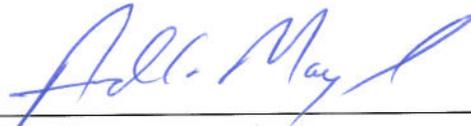
Contact Person: Eugene P. Willis, P.E. Title: Town Engineer

Telephone #: (978) 685-0950 Email: gwillis@townofnorthandover.com

Mailing Address: 384 Osgood Street, North Andover, MA 01845

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: Andrew W. Maylor

Title: Town Manager

Date: 4/30/13

Part II. Self-Assessment

As of the end of Year 10, the Town has achieved nearly all of the measurable goals for the BMPs selected in and those added in subsequent years to reflect unplanned stormwater activities by the Town.

Stormwater management activities and accomplishments to note include:

- Five illicit discharges were identified, corrected, and documented during Permit Year 10.
- The Town hired a consultant to perform an environmental compliance assessment at the Department on Osgood Street in Permit Year 9. As a result, the Town prepared a Stormwater Pollution Plan (Prevention Control and Countermeasure (SPCC) Plan for the facility in June 2012.
- In July 2012, Department of Public Works staff attended two separate trainings on the procedure practices recommended for the facility in the SWPPP and Oil SPCC Plan.
- The NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water Facilities, GIS, Community Development and School Department, met seven times in Permit Year 10.

Planned activities for the next permit term have not been designated unless a BMP under this permit was under progress for completion. Once the General Permit for the next five years is available from EPA, the town will submit a Notice of Intent to MassDEP and EPA for compliance with the new General Permit.

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 10 (Reliance on non-municipal partners indicated, if any)	Planned
1a	Air stormwater messages on local cable	Division of Public Works	Air one new message for two weeks quarterly	The Town set up a list of 11 stormwater messages to air on the local cable access channel and the school channel. These 11 messages are broken down into 1-2 public service announcements which air throughout the day. The messages, which are targeted at homeowners, inform homeowners what they can do to prevent nonpoint source pollution.	Measurable Permit The Town has no service on the local cable access channel
1b	Add stormwater information to Town's website	Division of Public Works	Complete update by end of second permit year	Links to information about stormwater included on the Town website during Permit Year 1 were maintained throughout Permit Year 10. This information is directed at adults, educators, and kids, and also includes links to local watershed websites. Information about protecting lakes from nonpoint source pollution included during Permit Year 1 also remains on the Town website. The stormwater messages that were prepared for the local cable access channel and were added to the Town website in Year 3 were maintained throughout Year 10. The North Andover Annual Water Quality Report provides information on the proper disposal of dog waste. The Annual Report was mailed out to all businesses and residents in the Town and is also available on the Water Department's webpage.	Measurable Permit

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Plann
1c	Distribute/post non point source pollution posters	Division of Public Works	Post in all school and Town-owned buildings	<p>Posters were distributed to and posted in the Town Library, Office of Community Development, Town Hall, and the Water Treatment Plant during Permit Year 1. No further activities were planned for subsequent years. The Town displays <i>Maintain Your BMPs</i> and <i>Stormwater and the Construction Industry</i> posters at the DPW and Community Development Offices.</p> <p>In Permit Year 10, the North Andover School Department developed a stormwater public education and participation program. The program involved displaying posters in the schools, providing students with stormwater crossword puzzles, and distributing stormwater stickers, bookmarks and brochures. Messages are distributed through the classroom, bulletin boards and on the local cable channels. In Permit Year 10, the Town purchased five dog waste stations. The dog waste stations are scheduled to be installed in Permit Year 11.</p>	<p>Measur</p> <p>Permit</p> <p>The T</p> <p>waste</p> <p>The fi</p> <p>be inst</p> <p>Walk</p> <p>install</p>

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned
1d	Inform Residents of Town's recycling programs/schedules	Division of Public Works	Distribute information to all residents by website, mailings, etc.	<p>The Town's website contains information on Town's recycling programs and schedules. Mixed stream, curbside pickup has been available throughout the Town since June 2009. In permit Year 8 the Town implemented a rain barrel program. Distribution of rain barrels has been on-going since the program's inception.</p> <p>The North Andover Public School system offers an extensive recycling program. Information on the school recycling program is located on the Town's website at: http://www.northandoverpublicschools.com/sargent/pto/sargpto_collection_programs.cfm</p> <p>Additional information on the school recycling program is available at: http://www.townofnorthandover.com/pages/NAndoverMA_Recycling/schoolrecycle</p> <p>North Andover public schools participate in the Green Team program sponsored by the Massachusetts EOEEA and DEP.</p> <p>In Permit Year 10, the North Andover Division of Community Development began publishing the <i>Community and Business Newsletter</i>. The Newsletter informs both residents and businesses of Town Events http://www.townofnorthandover.com/Pages/NAndoverMA_CommDev/index.</p>	<p>Measurements</p> <p>Permit Year 10</p> <p>Sale of order information offered Day C May 4</p> <p>In Permit Year 10 and Beyond</p> <p>Resident Annual</p>

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned
2a	Collect household hazardous waste from residents	Division of Public Works	Hold household hazardous waste collection day twice per year.	North Andover held Household Hazardous Waste Collection Days twice this year on April 21, 2012 and October 20, 2012 from 9 a.m. to 1 p.m. at the DPW garage. Approximately 54 residents participated and the Town collected 825 pounds of liquids, including - paints, aerosols, pesticides, oxidizers and acids. The Town holds a general household hazardous waste collection day on the third Saturday of each month from 9 a.m. to noon.	The North Andover Hazardous Waste Collection Days were held
2b	Collect & Recycle waste oil	Division of Public Works	Collect waste oil from residents twice per month	The DPW collects waste oil for recycling on the first and third Saturday of every month from 9 a.m. to noon at the DPW garage.	North Andover waste oil collection month
2c	Develop Stormwater Hotline	Division of Public Works	Create phone number(s) & inform residents of hotline	The Town continued to have in place a stormwater hotline to track illegal dumping, with information included on the Town website. Residents are able to call the hotline and obtain information, ask questions, provide feedback, and report illegal dumping.	Measure Permit North Andover stormwater

2d	Coordinate an annual, voluntary waterways cleanup day	Division of Public Works/ Con Com	Hold waterways cleanup day once per year beginning in the Spring of 2005 (Permit Year 3)	<p>North Andover held their Annual Town-wide Earth Day Clean-up on April 28, 2012 from 8:30 a.m. to 3:30 p.m. Residents volunteered to pick up litter and were allowed to focus their efforts in a part of Town of their choosing. The Shawsheen River Watershed Association held two river clean up trips in Permit Year 10 – May 5, 2012 and June 2, 2012.</p> <p>Friends of North Andover Trails held a clean-up on the Shawsheen River Trail on July 14, 2012 from 9 a.m. to noon.</p>	<p>Measu Permit</p> <p>The N wide E held o to 2:00 Town and pr the Ea</p> <p>The St Associ up trip curren 2013 a</p>
2e	Make SWMP available for public review/comment	Division of Public Works	Post SWMP on Town website, in library, in Division of Public Works office	Copies of the SWMP created for the Town were placed in the Town Library, at the DPW office, and the SWMP was posted on the Town website during Permit Year 1. The SWMP remained available at these locations through Permit Year 5 and is still available on the Town's website.	<p>Measu Permit</p> <p>The S Town'</p>

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned
3a	Map outfalls, receiving waters and storm drains	Division of Public Works	Complete mapping by end of fourth permit year	Outfall mapping in urbanized areas was completed in 2008. In Permit Year 10, the Town completed the detailed outfall mapping of the Cochickewick Brook.	Measu Permit
3b	Develop illicit discharge detection & elimination	Division of Public Works	Make recommendations for proposed plan	The Final IDDE Plan was completed in October 2010 by a working group comprised of multiple Town departments. The plan establishes actions, procedures, and a timeline for IDDE activities to comply with both the 2003 General Permit and many of the anticipated 2012 North Coastal Small MS4 General Permit requirements. During Permit Year 10 the Town started GIS monitoring of approximately 16 outfalls at Steven's Pond. In Permit Year 10 identified, corrected, and documented five illicit discharges. Two illicit discharges were raw sewage, one was sediment flowing to a catch basin, one was a small gas leak from a vehicle accident and one was gas in the DPW sump.	Measu Permit
3c	Review existing bylaws and regulations	Division of Public Works	Determine whether existing bylaws/ regulations are adequate	The Town finished reviewing their existing regulations with regard to illicit discharge detection and elimination in the third permit year. No goals related to this item were planned for Permit Year 10.	Measu Permit The Tc illicit c

3d	Develop/modify general illicit discharge bylaw	Division of Public Works	If necessary, propose recommendation for bylaw updates.	The Town developed a general illicit discharge bylaw that meets USEPA requirements during the fourth permit year. The Stormwater Management & Erosion Control Bylaw was adopted on May 12, 2009, which also adopts MA Stormwater Standard 10 to prohibit illicit discharges by reference.	Measu Permit
3e	Present bylaw for Town meeting action	Division of Public Works	Make presentations for Town meeting action, if necessary.	North Andover adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011. In FY 13, DPW and WTP requested approximately \$60,000 for Stormwater Permitting Mandate tasks. The budget was approved at the Town Meeting.	Measu Permit

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Plann
4a	Review existing bylaws and regulations	DPW/Planning/ Con Com	Determine whether existing bylaws/ regulations are adequate	The Town finished reviewing the relevant sections of their Rules and Regulations governing the Subdivision of Land and the Zoning Bylaws in the fourth year of the permit. North Andover adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011.	Measu Permit
4b	Develop/modify bylaws for construction site runoff	DPW/Planning/ Con Com	If necessary, propose recommendations for bylaw updates	In the fourth year of the permit, the Town completed the development of a bylaw for the control of construction site runoff. The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009.	Measu Permit
4c	Present bylaw for Town meeting action	DPW/Planning/ Con Com	Make presentations for Town Meeting action, if necessary.	The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009.	Measu Permit
4d	Review existing site inspection practices	DPW/Planning/ Con Com	Determine whether existing practices are adequate	During the fourth permit year, the Town completed the development of a bylaw for the control of construction site runoff, including requirements for construction period site inspections. In Permit Year 10, North Andover reviewed 16 sites for erosion and sedimentation control. Three tickets/ stop work orders were issued and two fines were collected.	Measu Permit

4e	Develop/modify site inspection practices	DPW/Planning/ Con Com	If necessary, make recommendations for updating existing practices	<p>During the fifth permit year, the Town made some changes to their erosion/sedimentation control and drainage submittal requirements, as well as their site inspection practices. The Conservation Commission maintains records of all inspections in their individual project files. The updated Wetland Regulations require visual monitoring of discharges at construction sites, which is tracked by Conservation and Planning. If water quality monitoring is required, reports may be submitted to the Conservation electronically.</p>	Measu Permit
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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 10 (Reliance on non-municipal partners indicated, if any)	Plann
5a	Review existing bylaws and regulations	DPW/Planning/ Con Com	Determine whether existing bylaws/ regulations are adequate	The Town finished reviewing the relevant sections of their Rules and Regulations governing the Subdivision of Land and the Zoning Bylaws during the third permit year. No goals related to this item were planned for Permit Year 10. The Town adopted Regulations for the Stormwater Management & Erosion Control Bylaw on February 15, 2011.	Measu Permit
5b	Develop/modify bylaws for post-construction runoff	DPW/Planning/ Con Com	If necessary, propose recommendation for bylaw updates	During the fourth permit year, the Town developed a post-construction stormwater management bylaw that meets USEPA requirements and references MA Stormwater Management Standards. The Town posted the Stormwater Management & Erosion Control Bylaw and Regulations on the Town's website in April 2011.	Measu Permit
5c	Present bylaw for Town meeting action	DPW/Planning/ Con Com	Make presentations for Town meeting action, if necessary	During the fourth permit year, the post-construction stormwater management bylaw was presented for Town Meeting action. However, the bylaw did not pass. During the fifth permit year, the bylaw was revised and selected information was pulled out to include in a separate regulation. The bylaw was revised with input provided from the Planning Department and Conservation Commission. The Town adopted the Stormwater Management & Erosion Control Bylaw on May 12, 2009. The Regulations were adopted on February 15, 2011.	Measu Permit

5d	Review existing site inspection practices	DPW/Planning/ Con Com	Determine whether existing practices are adequate	During the fourth permit year, the Town completed review of their existing site inspection and maintenance practices to determine whether they comply with USEPA's stormwater management plan requirements. The Planning Board approved the first Land Disturbance Permit in August 2011.	Measu Permit
5e	Develop/modify site inspection practices	DPW/Planning/ Con Com	If necessary, make recommendations for updating existing practices	During the fifth permit year, the Town made any necessary changes to their existing site inspection and maintenance practices to bring them into compliance with the USEPA's stormwater management plan requirements. The Planning Board and the Conservation Commission now require applicants to provide a calculation of total square footage of increased impervious area as part of the as-built submission.	Measu Permit

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 10 (Reliance on non-municipal partners indicated, if any)	Planned
6a	Sweep streets	Division of Public Works	Sweep all Town streets once per year; Stevens Pond 2/yr.	During Permit Year 10, approximately 270 lane miles of roadway were swept of winter sand and Stevens Pond was swept twice. Ground speed controls were installed on sanders and the Town switched from sand to total salt, which has reduced the amount of sediment on the roads. The Town is also doing more pre-treating and has installed pavement sensors in their anti-icing vehicles to make salt use more efficient.	Continued once per year
6b	Clean catch basins	Division of Public Works	Develop & implement cleaning schedule; Stevens Pond 1/yr.	During Permit Year 10, approximately 300 catch basins were cleaned mechanically or by hand. Material from the catch basin cleaning is disposed of at the Cyr Recycle Center on Sharpener's Pond Road.	Continued as needed

6c	Train municipal employees at each facility	Division of Public Works	Target all applicable municipal facilities	<p>The Town started to train employees at all applicable municipal facilities during the fourth permit year. During the fifth permit year, the Town completed the required training, which included holding a training session with municipal employees from the Fire Department, School Department, Department of Public Works, and Youth Services.</p> <p>During Permit Year 10, six DPW employees attended a Stormwater Pollution Plan training held at the DPW on July 16, 2012. Five DPW employees also attended an Oil Spill Prevention Control and Countermeasure (SPCC) Plan training held at the DPW on July 26, 2012. The Town has formed a NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water & Sewer, Engineering, Facilities, GIS, Community Development and School Department. The subcommittee met seven times during Permit Year 10.</p>	Measu Permit
6d	Perform follow-ups to ensure required practices are met	Division of Public Works	Target all applicable municipal facilities	Engineering monitor practices at municipal facilities through day-to-day activities and communications.	The To check School Public ensure municipi progra

Addition:

6e	Public Works Facility Good Housekeeping	Division of Public Works	Implement procedures and best management practices to prevent stormwater pollution	The Town hired a consultant to perform an environmental compliance assessment at the Department of Public Works Facility on Osgood Street in Permit Year 9. As a result, the Town prepared a Stormwater Pollution Plan (SWPPP) and an Oil Spill Prevention Control and Countermeasure (SPCC) Plan for the facility in June 2012.	The To implem
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7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 10 (Reliance on non-municipal partners indicated, if any)	Planned
TMDL-1	Check current impairments	Division of Public Works	Check current MA Integrated List of Waters each year for newly listed or delisted receiving waters in North Andover	<p>The Bacteria TMDL for the Shawsheen River Basin {MA83-01-2002-24} has been in effect since August 2002. See WLA Assessment below for BMPs that will reduce North Andover's bacteria contribution to the watershed.</p> <p>Other waters in North Andover listed as Category 5 on the MA 2012 Integrated List of Waters include:</p> <ul style="list-style-type: none"> • Salem Pond (turbidity) • Lake Cochichewick (mercury in fish tissue) • Stevens Pond (mercury in fish tissue) • Merrimack River (e.coli, mercury, PCBs, Phosphorus) 	Measur Permi The T the sta pursue of pol bacter River.

7b. WLA Assessment

The Report "Bacteria TMDL for the Shawsheen River Basin {MA83-01-2002-24; August 2002}" is final as there was only one monitoring station indicated for the Town of North Andover- SH17.8 The Shawsheen Massachusetts Avenue and had high fecal coliform counts during both dry & wet weather sampling in 1997.

TMDL sets allowable bacteria levels for urban runoff and point sources equivalent to the water quality : sanitary sewer overflows, illicit connections and failing septic systems are set equal to zero.

The TMDL does not dictate or require any specific individual controls at a particular outfall or site in North .

The following activities and BMPs will help reduce North Andover's bacteria contribution to the Shaws WLAs:

Stormwater management activities and accomplishments to note include:

- Five illicit discharges were identified, corrected, and documented during Permit Year 10.
- The Town hired a consultant to perform an environmental compliance assessment at the Department on Osgood Street in Permit Year 9. As a result, the Town prepared a Stormwater Pollution Plan (Prevention Control and Countermeasure (SPCC) Plan for the facility in June 2012.
- In July 2012, Department of Public Works staff attended two separate trainings on the procedural practices recommended for the facility in the SWPPP and Oil SPCC Plan.
- The NPDES Subcommittee, which is comprised of members of the Planning, Conservation, Water Facilities, GIS, Community Development and School Department, met seven times in Permit Year 10.
- In Permit Year 10, the Town purchased five dog waste stations. The dog waste stations will be installed during Permit Year 11. The first two stations will be installed along the Shawsheen River Walk at the Town continues to enforce the leash law and pet waste law under Chapter 88 – "Dogs" in the General

The following table summarizes the WLA for the Shawsheen River:

Fecal Coliform Wasteload Allocations (WLAs) and Load Allocations (LAs) for the Shawsheen River and Identified Tributary Streams		
Bacteria Source Category	WLA (organisms/100ml)	LA (organisms/100ml)
Point Source	Geomean \leq 200 10% \leq 400	
Sewer leaks	0	0
Sanitary Sewer Overflow	0	0
Illicit Sewer Connections	0	
Failing Septic Systems	0	0
Direct Wildlife		Geomean \leq 200 10% \leq 400
Urban Stormwater Runoff	Geomean \leq 200 10% \leq 400	Geomean \leq 200 10% \leq 400

Part IV. Summary of Information Collected and Analyzed

N/A

Part V. Program Outputs & Accomplishments (OPTIONAL)

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

Programmatic

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

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)
Stormwater management committee established	(y/n)
Stream teams established or supported	(# or y/n)
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 **	(#)
• community participation **	(# or %)
• material collected **	(tons or y/n)
School curricula implemented	(y/n)

Legal/Regulatory

	In Place Prior to Phase II	Reviewing Existing Authorities	Drafted
Regulatory Mechanism Status (indicate with "X")			
• Illicit Discharge Detection & Elimination			
• Erosion & Sediment Control			
• Post-Development Stormwater Management			
Accompanying Regulation Status (indicate with "X")			
• Illicit Discharge Detection & Elimination			
• Erosion & Sediment Control			
• Post-Development Stormwater Management			

Mapping and Illicit Discharges

Outfall mapping complete	(Preferably) (%)
Estimated or actual number of outfalls	(#)
System-Wide mapping complete (complete storm sewer infrastructure)	(%)
Mapping method(s)	
• Paper/Mylar	(%)
• CADD	(%)
• GIS	(%)
Outfalls inspected/screened **	(# or %)
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)
Illicit discharges identified **	(#)
Illicit discharges identified (Since beginning of permit coverage)	(#)
Illicit connections removed **	(#); an (est. gr)
Illicit connections removed (Since beginning of permit coverage)	(#); an (est. gr)
% of population on sewer	(%)
% of population on septic systems	(%)

Construction

(Preferred)

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

Post-Development Stormwater Management

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

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)
Qty. of structures cleaned **	(#)
Qty. of storm drains cleaned **	(%, LF o
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or t
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location

Basin Cleaning Costs	
• Annual budget/expenditure (labor & equipment) **	(\$)
• Hourly or per basin contract rate **	(\$/hr. or basin)
• Disposal cost **	(\$)
Cleaning Equipment	
• Clam shell truck(s) owned/leased	(#)
• Vacuum truck(s) owned/leased	(#)
• Vacuum trucks specified in contracts	(y/n)
• % Structures cleaned with clam shells **	(%)
• % Structures cleaned with vector **	(%)

	(Prefer
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr
Qty. of sand/debris collected by sweeping **	(lbs. or t
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location
Annual Sweeping Costs	
• Annual budget/expenditure (labor & equipment) **	(\$)
• Hourly or lane mile contract rate **	(\$/hr. or
• Disposal cost **	(\$)
Sweeping Equipment	
• Rotary brush street sweepers owned/leased	(#)
• Vacuum street sweepers owned/leased	(#)
• Vacuum street sweepers specified in contracts	(y/n)
• % Roads swept with rotary brush sweepers **	%
• % Roads swept with vacuum sweepers **	%

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)	
• Fertilizers	(lbs. or %
• Herbicides	(lbs. or %
• Pesticides	(lbs. or %
Integrated Pest Management (IPM) Practices Implemented	(y/n)
<i>Northeast Massachusetts Mosquito Control and Wetland Management District</i>	

(Preferre

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
Pre-wetting techniques utilized **	(y/n or %)
Manual control spreaders used **	(y/n or %)
Zero-velocity spreaders used **	(y/n or %)
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs./ln.)
Estimated net reduction or increase in typical year sand application rate **	(±lbs./ln.)
% of salt/chemical pile(s) covered in storage shed(s)	(%)
Storage shed(s) in design or under construction	(y/n or #)
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008	(y/n)

Water Supply Protection

Storm water outfalls to public water supplies eliminated or relocated	# or y/n
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n
<ul style="list-style-type: none"> Treatment units induce infiltration within 500-feet of a wellhead protection area 	# or y/n

