

Municipality/Organization: Town of Middleton, MA

EPA NPDES Permit Number: MA 041211

MassDEP Transmittal Number: W-

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

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Robert LaBossiere Title: Superintendent of Public Works

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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: Ira S. Singer

Title: Town Administrator

Date: _____

Part II. Self-Assessment

The Town of Middleton has continued the implementation of Minimum Control Measures during years 5, 6,7,8 and 9 to manage storm water and to reduce pollutants and contaminants associated with storm water. Highlights of the Town's implementation of Minimum Control Measures through the MS4 program include:

1. Public Education and Outreach

- Partnering with Greenscapes.org Massachusetts.
- Earth Day activities. Middleton held an Earth Day on April 29, 2012 and is planned for April 28, 2013.
- The Middleton Stream Team holds meetings monthly and has hosted events including:
 - The Fall Family Hike on October 21, 2012
 - The Winter Family Ice Hike on February 5, 2012
 - The Spring Family Hike on March 27, 2012. These field walks are designed to be educational and occurred in different parts of Middleton with different subject matter discussed, including various plant and animal life and vernal pool life. (a link to literature is available via a community calendar)
- Videos and handouts available at the library.
- Stormwater links as well as other related links are provided at the conservation site.

2. Public Involvement and Education

- Household Hazardous Waste Day is held annually in the fall as a Tri-Town event.
- Transfer Station is open to residents for recycling and collection of tires/batteries/mercury/fluorescent bulbs year round.
- The Middleton Board of Trade sponsored an electronic junk collection day for Town businesses in 2011 and 2012 with the practice expected to continue.
- Mailings and information available at DPW and Conservation Agent office.

3. Illicit Discharge Detection and Elimination

- The town does not have a municipal sewer collection system. Screening and inspections of outfalls has not identified any illicit discharges.
- Screenings will continue this year.
- The Town is in the process of a RFP for GIS technology and hopes to be able to capture all drainage infrastructure by coordinates and have an electronic representation of stormwater infrastructure by the end of FY14.

4. Construction Site Stormwater Runoff Control

- The Town currently implements the state regulations until the Town Bylaw is adopted. The draft Town Bylaw and regulations are based on MassDEP requirements listed in the Stormwater Handbook.
- The Conservation Agent and DPW are responsible for monitoring runoff controls during construction.
- Great efforts have been made with the writing of the Towns new Stormwater Bylaw and regulations. The Town is working with

Sam Cleaves from MAPC through a grant. MAPC will be reviewing our bylaw and regulations and conducting public meetings, board presentation and outreaches for the Town in an effort to gain support for a positive outcome at Town Meeting.

5. Post-Construction Stormwater Management in New Development and Redevelopment
 - The Conservation Agent and DPW are responsible for monitoring BMP compliance post construction.
 - The Town has prepared Stormwater Management Regulations for adoption which includes post construction maintenance requirements.
 - The Regulations includes provisions for easement access that permits Town officials to inspect and clean stormwater facilities as needed and/or in the event of an emergency.
 - A draft Land Disturbance permit has been developed to coincide with the Stormwater Management Regulations.
 - The Town has prepared a Stormwater Management Bylaw to address Illicit Discharges to the Municipal Storm Drain System including enforcement protocol.
6. Pollution Prevention and Good Housekeeping in Municipal Operations
 - Catch basin cleaning budget has increased to allow all catch basins to be cleaned annually.
 - Street sweeping activities has increased to 105 lane miles annually.
 - Mosquito control programs continue.
 - Catch basin stenciling continues.
7. The Town has Developed a Stormwater Outfall Map
 - The map currently has 98% of the outfalls plotted. Newer subdivision information and additional stormwater infrastructure will be added as needed.
 - The map has been updated to include outfalls that discharge directly into water bodies.
 - The map also has noted those outfalls that discharge into existing BMPs such as wet ponds and infiltration basins.
 - The Town is in the process of hiring a firm to install GIS software which will allow us the ability to capture the stormwater infrastructure and formulate an electronic database and mapping system.

Activities planned for the Stormwater Management Program developed by the Town include:

- Stormwater Bylaws and Regulations will be presented to the Town by MAPC, through a grant, at public meetings, board presentations, and outreaches to gain support for a positive outcome at Town Meeting.
- Modifications to the stormwater map include the total number of outfalls leading to existing BMP's such as detention ponds and dry basins vs. older piped outfalls that discharge directly into waters.
- Use the stormwater map to coordinate documentation of the wet testing, dry screening and dry inspection results from outfall testing.
- Develop an outfall BMP self-assessment of the existing outfalls to discuss strategies for future BMP construction at untreated outfalls to coincide with capital improvement projects and repaving projects.
- Continue to test outfalls that flow directly to water bodies.
- Volunteers are proposing to GPS structures this summer.
- Review the existing testing of untreated outfalls in Town that are owned and controlled by others as needed. The (MassDOT Route 114) outfalls that discharge into the Emerson Pond Reservoir, the Town assumes that the State is responsible for testing these outfalls.
- Prepare a strategy for local funding program to pay for the additional cost of improving, monitoring and maintaining the stormwater system to meet the MS-4 Final Permit Requirements.
- In the summer of 2013, review the final permit for the NCW and discuss strategy for meeting the final permit goals.
- Identify potential sources of fees to assist funding the stormwater program.
- Continued involvement with Stream Team; local contact John Bacon.
- Catch basin stenciling program.
- Catch basin, culvert and outfall screenings and inspections.
- Street sweeping and catch basin cleaning.
- Community Partnership with Greenscapes.org; local contact Pike Messenger.
- Participation in Earth Day activities; local contact Sandra Rubchinuck.
- Continue Mosquito Control Program.
- Continue Household Hazardous Waste Day.
- Transfer Station acceptance of oil, tires, batteries, fluorescent bulbs, and mercury products.
- Mosquito control planned for the Maple Street area,

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 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
1.1	Develop informational brochure on storm water program.	Conservation Agent/Town Planner	Provide and maintain copies at the library	EPA supplied brochures were distributed in the Town library including: <i>-After the Storm</i> <i>-Make Your Home the Solution to Stormwater Pollution</i> <i>-Water Efficient Landscaping</i> <i>-Door hanger: “Stormwater Pollution Found in Your Area”</i>	Maintain copies of the brochure(s) in the library at the new media center.
1.2	Add stormwater information and links to the Town’s website.	Webmaster	Complete by end of Year 1	Stormwater information is available on the Town’s website via the Conservation Commission. This includes a map showing Middleton’s MS4 area, links to EPA references for BMPs, and public education outreach materials.	Stormwater information on the Town’s website will be updated periodically. The DPW link will be updated to include a Stormwater information link.
1.3	Distribute informational brochure with annual recycling program mailing.	Conservation Agent/Town Planner	One mailing per year over the 5-year permit term	Town distributed copies of EPA supplied stormwater brochure with the water department Consumer Confidence Report (CCR) annual mailing by July 1 of each year. The Town is a community partner of Greenscapes.org which is handling inserts/flyers for CCRs and informational mailings for the Town. Greenscapes also uses email to contact residents.	Practice of distributing information will continue.
1.4	Broadcast Stormwater related information on local public access TV.	DPW/Public Health Director	Broadcasts on multiple days throughout the year.	EPA video “After the Storm-A Citizens Guide to Understanding Stormwater” was shown several times on Public Access TV.	Continue to show this, or related stormwater program(s) at the new media center in the library.

1a. Additions

15	Family Hikes sponsored by volunteer groups	Stream Team	Organize walks to educate the public on a variety of environmentally related topics	Stream Team sponsored events included family walks throughout the year.	Planned walks will continue next year.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
2.1	Presentation at annual public meeting to describe and provide update on the Town's stormwater program and receive public input.	Board of Selectmen's Office	Three (3) public meetings during the 5-year permit term.	A presentation on stormwater issues was included in Town Meetings as part of the warrant article process.	Make presentation at the Annual Town Meeting May 4, 2010. Presentation to include stormwater information, Greenscapes.org, Stream Team, vehicle washing, and fertilizer application, and related topics.
Revised					
2.2	Continue to hold annual household hazardous waste collection.	DPW	Household hazardous waste collection held once/year.	<u>11/13/12</u> 14 Full cars, 21 Half cars <u>11/9/11</u> 10 Full cars, 29 Half cars <u>11/9/10</u> 6 Full cars, 22 Half cars <u>11/6/09</u> 25 Full cars, 32 Half cars <u>11/12/08</u> 14 Full cars, 33 Half cars	Continue program. (Note: full car = truck full of paint per Clean Harbors)
Revised					
2.3	Continue regular used oil, batteries, and tire collection program.	DPW	Used oil, batteries, and tires are received by the DPW on a year-round basis.(3 times per week)	Transfer station is open to receive materials on Wednesday, Saturday, and Sunday from 8:00 a.m. to 4:00 p.m. Town distributed copies of EPA supplied stormwater brochure with the water dept. CCR annual mailing by 7/1 each yr. Town is a community partner of Greenscapes.org which is handling inserts/flyers for CCR and informational mailing for Town. Greenscapes also emails residents directly.	Practice of distributing information will continue. DPW will continue to receive oil, tires and batteries on a year round basis.
Revised					

2a. Additions

2.4	Catch basin stenciling	Conservation Agent/DPW	Stencil priority catch basins	Priority basins were stenciled by DPW summer staff in Summer 2006.	Continue program using DPW summer help or community service. Evaluate permanent marking options.
2.5	Continue regular lead exchange program, and fluorescent bulb recycling program.	DPW	Products containing lead, and fluorescent bulbs are received by the DPW on a year-round basis.	Transfer station is open to receive materials on Wednesday, Saturday, and Sunday from 8:00 a.m. to 4:00 p.m. <u>2012</u> 53 feet fluorescent bulbs 3 thermometers 2 thermostats <u>2011</u> 72 feet fluorescent bulbs 5 thermometers 6 thermostats <u>2010</u> 180 feet fluorescent bulbs 8 thermometers 8 thermostats <u>2009</u> 172 feet fluorescent bulbs 7 thermometers 8 thermostats	Continue program. Products containing lead, mercury, and florescent bulbs are received by the DPW on a year round basis with the help Covanta.
Revised			<i>Mercury containing products are also received.</i>		
2.6	Stream Team Cleanup	DPW/Stream Team	Partner with Stream Team and assist with coordinating activities.	Continued partnership and assisted with River, Brook, Pond and Canoe Landing cleanups. Continue with Family themed hikes for educational purposes.	Continue program.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
3.1	Continue mapping stormwater outfalls and receiving waters.	DPW	Complete mapping by end of Year 1	Mapping was completed in 2009 and this BMP is 95% complete. New subdivisions information from record drawings will be added to the stormwater map. There are 130 outfalls currently mapped.	The Town is in the process of preparing an electronic map which includes coordinates.
Revised					
3.2	Visually inspect outfalls for dry weather flow.	DPW	Year 2 through 5: inspect 25% of outfalls per year.	Visual inspection of outfalls was completed. To date, there is no evidence of illicit connections.	Program for continued inspection of outfalls for dry weather flow and during wet weather flow to be developed.
Revised					
3.3	Develop system for detection and elimination of illicit discharges.	DPW	Implement system by the end of Year 1.	No evidence of illicit connections observed. There is only 1 private sewer system serving 25 homes.	Based on the results of BMP 3.2, a system for detection and elimination of illicit discharges will be developed and implemented, if necessary, based on outfall inspection results.
Revised					
3.4	Update Town Bylaws and Regulations to include stormwater ordinances.	Conservation Agent/Public Health Director	Year 2: Review existing Bylaws & Regulations; Year 3: propose changes; Year 4: Implement changes (if approved)	A bylaw has been prepared by the Town and is being reviewed with the help of MAPC through a grant. MAPC will be running a public relations campaign to gather support.	Present Bylaws and Regulations at al Town Meeting after several outreaches to educate the public.
Revised					

3a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
3.5	Catalog outfalls discharging into Category 5 impaired waters or discharges in Zone A & B Water Supply Protection areas.				Based on the information mapped the TMDL effected waters are: Ref. MA92-06_2008 Ipswich River (Cat. %) w/12 outfalls. 8 w/BMP's Ref. MA92-06_2008 Unnamed Tributary (Cat. %) w/8 outfalls. 4 w/BMP's <i>Zone A & B</i> <i>Water Supply Protection Areas:</i> MA92021_2008 Emerson Brook Reservoir w/5 outfalls. 3 w/BMP's MA92039_2008 Middleton Pond w/3 outfalls. 2 w/BMP's.
3.6	Test outfalls to Category 5 impaired waters and Zone A & B Water Supply Protection areas				Testing to continue this year.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
4.1	Develop an ordinance requiring developers to prepare an Erosion & Sedimentation Control Plan for all sites disturbing more than 1-acre. Require that the plan be reviewed and approved by the Planning Board.	Conservation Agent/Public Health Director	Year 2: Develop ordinance for ConCom and Planning Board approval. Years 3-5: Implement ordinance (if approved).	The Conservation Agent has developed draft bylaws, stormwater regulations, and land disturbance application.	Conduct educational public outreaches with MAPC to gain support for Town Meeting approval.
Revised	<i>Refer to 4.2 BMP Description and Additions</i>				
4.2	Periodically check erosion control measures and construction material management with on-site inspections.	Conservation Agent/DPW/Town Planner/Building Inspector/Public Health Director	Monitor and track violations through reports to the ConCom and/or Planning Board.	Construction activity within the Town is monitored by the Conservation Agent on a regular basis. This includes site inspections to insure that erosion and sediment control BMPs are in place and being maintained.	This practice will continue.
Revised	<i>Use existing regulatory mechanisms (such as the Wetland Protection Act) to ensure stormwater BMPs are implements during construction.</i>	<i>Conservation Agent/DPW/Town Planner/Building Inspector</i>	<i>Institute policy of Town review of contractor stormwater management plans for all proposed construction projects.</i>		
Revised					

4a. Additions

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5-9	Planned Activities-Year 10
4.3	Construction Site Stormwater Runoff Control	Conservation Agent/Public Health Director	Public Outreach for adoption of bylaw	Continued work on the draft version of bylaw. Bylaw is 90% completed and working on final comments.	Work with MAPC on public outreach to educate public on bylaw to be approved at Town Meeting
4.4	Draft Conservation Commission Stormwater Management Regulation	Conservation Agent/Public Health Director	Completion of Stormwater Regulations.	Draft has been completed	Work with MAPC on public outreach to educate public on bylaw to be approved at Town Meeting
					Draft regulations include a Land Disturbance Permit Application to be filled out for new and redevelopment sites.

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 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
5.1	Develop an ordinance requiring stormwater controls for all new and redeveloped projects disturbing more than 1-acre.	Conservation Agent/Public Health Director	Year 2: Develop ordinance for ConCom and Planning Board review and approval.	Adoption of new Bylaws is no longer required by MA DEP (ref: letter from DEP Bureau of Resource Protection dated 4/12/2004). The Conservation Agent has developed draft bylaws, stormwater regulations, and land disturbance application.	Work with MAPC on public outreach to educate public on bylaw to be approved at Town Meeting.
Revised	<i>Use existing regulatory mechanisms (such as the Wetland Protection Act, and MA DEP Stormwater Policy) to ensure post-construction stormwater BMPs are implemented.</i>	<i>Conservation Agent/DPW/Public Health Director/Building Inspector</i>	<i>Institute policy of Town review of contractor stormwater management plans for all proposed construction projects. Stormwater Management Plan to include post-construction monitoring, inspection and maintenance.</i>		
5.2	Inspect and maintain the stormwater controls required under BMP 5.1.	DPW/Commercial Property Owners	Inspect and maintain stormwater controls annually.	Construction activity within the Town is monitored by the Conservation Agent on a regular basis. This includes site inspections to insure that post-construction stormwater management BMPs have been adequately installed and a BMP maintenance program is in place.	This practice will continue.
Revised					

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 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
6.1	Street Sweeping	DPW	Sweep all streets annually and track volumes.	105 lane miles completed. 155 CY collected in 2012 180 CY collected in 2011 378 CY collected in 2010 432 CY collected in 2009	Continue program.
Revised					
6.2	Catch basin cleaning	DPW	Clean all catch basins annually and track volumes.	Approximately 810 catch basins. Approx. 90 CY collected in 2012 Approx. 110 CY collected in 2011 Approx. 150 CY collected in 2010 Approx. 125 CY collected in 2009	Continue program.
Revised					
				DPW cleaned all catch basins in 2011 and 2012	DPW budgeted to clean all catch basins in 2013
Revised					

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 5-9 (Reliance on non-municipal partners indicated, if any)	Planned Activities year 10
	Refer to Sections 3.5 and 3.6	DPW			Test all discharges in Category 5 Impaired waters and Water Supply Protection Zones A and B.

7a. Additions

Part IV. Summary of Information Collected and Analyzed

Municipal storm drain system contains approximately 130 outfalls and 810 catch basins.

90 cubic yards (CY) removed from 810 catch basins in 2012.

110 cubic yards (CY) removed from 810 catch basins in 2011.

155 CY of street sweepings from 105 lane miles collected in 2012.

180 CY of street sweepings from 105 lane miles collected in 2011.

Hazardous Waste Collection day held annually.

Transfer Station accepts lead, fluorescent bulbs, oil, batteries, and mercury containing products year round. Three days a week.

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, 2011 through March 31, 2012)

Programmatic

	(Preferred Units)	Response
Stormwater management position created/staffed (DPW Director)	(y/n)	Y
Annual program budget/expenditures **	(\$)	\$35,000
Total program expenditures since beginning of permit coverage	(\$)	
Funding mechanism(s) (General Fund, Enterprise, Utility, etc) (Operating Budget)		DPW

Education, Involvement, and Training

Estimated number of property owners reached by education program(s)	(# or %)	80%
Stormwater management committee established	(y/n)	Y
Stream teams established or supported	(# or y/n)	Y
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	Y
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	1 per year
▪ community participation **	(# or %)	
▪ material collected **	(tons or gal)	
School curricula implemented	(y/n)	Y

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	X	
▪ Erosion & Sediment Control			X	X	
▪ Post-Development Stormwater Management			X	X	
Accompanying Regulation Status (indicate with “X”)					
▪ Illicit Discharge Detection & Elimination			X	X	
▪ Erosion & Sediment Control			X	X	
▪ Post-Development Stormwater Management			X	X	

Mapping and Illicit Discharges

	(Preferred Units)	Response
Outfall mapping complete	(%)	95%
Estimated or actual number of outfalls	(#)	130*
System-Wide mapping complete (complete storm sewer infrastructure)	(%)	80%
Mapping method(s)		
▪ Paper/Mylar	(%)	98%
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened **	(# or %)	50%
Outfalls inspected/screened (Since beginning of permit coverage)	(# or %)	100%
Illicit discharges identified **	(#)	0
Illicit discharges identified (Since beginning of permit coverage)	(#)	01
Illicit connections removed **	(#); and (est. gpd)	
Illicit connections removed (Since beginning of permit coverage)	(#); and (est. gpd)	
% of population on sewer	(%)	0.1 %
% of population on septic systems	(%)	99.9%

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	2
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	100%
Site inspections completed **	(# or %)	100%
Tickets/Stop work orders issued **	(# or %)	3
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)	Y
Low-impact development (LID) practices permitted and encouraged	(y/n)	Y

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets) **	(times/yr)	1 per year
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	1 per year
Qty of structures cleaned **	(#)	810
Qty. of storm drain cleaned **	(%, LF or mi.)	100% per year
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	90 CY
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Cemetery

Basin Cleaning Costs		Subcontracted
• Annual budget/expenditure (labor & equipment)**	(\$)	\$7,300
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$9/CB
• Disposal cost**	(\$)	0
Cleaning Equipment		Subcontractor
• Clam shell truck(s) owned/leased	(#)	
• Vacuum truck(s) owned/leased	(#)	
• Vacuum trucks specified in contracts	(y/n)	
• % Structures cleaned with clam shells **	(%)	100%
• % Structures cleaned with vector **	(%)	

	(Preferred Units)	Response
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)	155 CY
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Cemetery
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$24,000
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	\$228/lane mile
• Disposal cost**	(\$)	0
Sweeping Equipment		Subcontracted
• Rotary brush street sweepers owned/leased	(#)	105 miles
• Vacuum street sweepers owned/leased	(#)	
• Vacuum street sweepers specified in contracts	(y/n)	
• % Roads swept with rotary brush sweepers **	%	100%
• % 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 %)	N/A
▪ Pesticides	(lbs. or %)	N/A
Integrated Pest Management (IPM) Practices Implemented	(y/n)	

	(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	80 20
Pre-wetting techniques utilized **	(y/n or %)	N
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	N
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/l _n mi. or %)	
Estimated net reduction or increase in typical year sand application rate **	(±lbs/l _n mi. or %)	20%
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
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)	Y

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
<ul style="list-style-type: none">Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N/A