

Municipality/Organization: Town of Bedford, Massachusetts
EPA NPDES Permit Number: MAR 041028
MassDEP Transmittal Number: W-X233180
Annual Report Number & Reporting Period: Year 9
April 1, 2011 – March 31, 2012

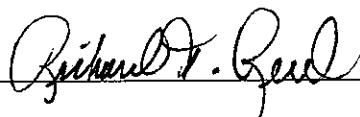
NPDES PII Small MS4 General Permit Annual Report (Due: May 1, 2012)

Part I. General Information

Contact Person: Adrienne St. John **Title:** Public Works Engineer
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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: Richard Reed
Title: Town Manager
Date: April 27, 2012

Part II. Self-Assessment

The Town of Bedford continues to manage stormwater impacts from design, project review, maintenance and educational aspects. The combined efforts of the Town's Department of Public Works, Conservation Commission, Planning and Zoning Boards have pushed to mitigate stormwater pollution and reduce flooding due to uncontrolled sources.

As part of developing this annual report, the Town evaluated compliance of its stormwater management program with the conditions of the 2003 *NPDES General Permit for Stormwater Discharges from Small MS4s*, as required by Part II.D.1 of the permit. During Permit Year 9, the Town has continued to implement its stormwater management program and meet measurable goals of BMPs. This year, the Town made substantial progress on educating the public and local businesses about stormwater pollution through developing the local Stormwater Management Bylaw, including Town-wide distribution of an educational brochure and educating citizens at Town Meeting. The Town also adopted a local Stormwater Management Bylaw that prohibits illicit discharges and illegal dumping, and regulates construction site stormwater runoff and post-construction stormwater management.

In accordance with Part II.D.2 of the permit, as part of the annual report development, the Town also evaluated the appropriateness of all BMPs in efforts towards achieving the defined measurable goals. BMPs and measurable goals continue to be appropriate. Also, BMP 1a-7 (Public education on proper pet waste practices) was identified as redundant. To improve efficiency of the Towns stormwater program, as well as expedite EPA review of the program, this BMP was included with BMP 1a-6 (Pet waste dispensers), because the intent of the these BMPs is to address pollution due to improper pet waste disposal.

Note that this year, for completeness, BMPs listed in the NOI that were subsequently achieved or determined to be infeasible have been re-listed in the annual report:

- BMP 3-1, purchase GPS equipment, was completed in Permit Year 1, and was therefore not included in subsequent annual reports.
- BMP 2-4, Attend Local Stormwater Summit, was determined to be infeasible because SuAsCo never held the watershed-wide stormwater summit. The intent of this BMP is being met by the Stormwater Committee's local coordination. Also, Town staff attend stormwater-related training including the American Public Works Association conference and the in early 2012, the Center for Watershed Protection stormwater webcasts.
- BMP 4-4, develop O&M plan for existing Town-owned systems, has been met through Town's operation and maintenance of town owned facilities, Town's regular drainage system and street sweeping operations, and through Town's continued commitment to developing and following Stormwater Pollution Prevention Plans under the Construction General Permit for municipal projects.

Bedford continues to be aware of the new Endangered and Threatened Species list, but has not determined that any Town activities or discharges have had a negative impact on the species. The Bedford Department of Public Works filed with the Natural Heritage Endangered Species Program for construction of a swale at a local recreational facility. The project was found to have no impact on the designated habitat.

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
1-1 Revised	Residential Flyer	DPW/SuAsCo	Distribute to 75% of homes	Measurable goal met. New stormwater bylaw brochure sent to all local mailing addresses to reiterate need to eliminate sources of stormwater pollution and emphasize harmful illicit discharges and construction site runoff issues.	Produce and distribute meaningful information to target audiences as required by new NPDES permit.
1-2 Revised	Education Program	DPW/SuAsCo	Teach in 1 5 th grade class	Measurable goal met in Permit Years 5 and 6. No measurable goals were planned for Permit Year 9. Published article about Bedford's rain gardens in February edition of BSCES newsletter. Town also supports local Scout cleanups by providing trash pickup for events.	Reassess value of 5 th grade education program for compliance with requirements of IMS Small MS4 General Permit, once finalized. As directed by new NPDES permit, continue program.
1-3 Revised	Develop web site	DPW	Have in place by 7/05	Website contains links to brochures, Town projects, federal programs, and helpful tips.	Continue to add information as needed.
1-4 Revised	Stormwater flyer to businesses	DPW/SuAsCo	Distribute to 50% of businesses	Measurable goal met. See BMP ID #1-1	Continue public education as directed by new NPDES permit.
1-5 Revised	Stormwater video	DPW	Show video on local cable station.	Measurable goal met. EPA's "Reduce Runoff: Slow it Down, Spread it Out, Soak it In!" and "After the Storm" videos were shown on local cable television.	Reassess value of showing stormwater videos for compliance with public education and outreach requirements of IMS Small MS4 General Permit, once finalized. In interim, continue with similar videos as budget allows.

1a-6	Pet Waste Dispensers	DPW	Distribute to 75% of local dog owners	Handed out 630 pet waste bags at Bedford Day. Town Clerk distributes bags as dogs are licensed.	Continue popular program.
Revised	<i>Pet Waste Disposal Education</i>		<i>Distribute to 75% of local dog owners; increase public awareness for proper pet waste disposal practices.</i>	Town maintains information on Animal control bylaw on Town website.	

1a. Additions

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2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
2-1 Revised	Stormwater Display	DPW/SuAsCo	3 mos. at library, Town Hall, Schools	Measurable goals met in prior permit years. No measurable goals planned for Permit Year 9. Had stormwater cards at Bedford Day to promote good housekeeping habits to prevent pollution.	Continue to mark catch basins and deliver door hangers to explain benefits of keeping stormwater clean.
2-2 Revised	Local Stormwater Committee	Selectmen, DPW Cons Com, Planning	Form committee by 12/04	DPW functions as core Stormwater Committee and communicates with other Town Boards and Commissions about stormwater as needed throughout the year. This year, Stormwater Committee including Conservation, Planning, Health, as well as Selectmen, provided input to prepare new stormwater bylaw.	Gather additional stakeholders to work on stormwater regulations.
2-3 Revised	Stormwater meetings	DPW/SW Committee	Meet 3x/year	Good communication between Conservation Commission, Administrator, Planning and Code Enforcement as needed to provide unified response to stormwater issues as needed.	Continue to communicate about stormwater throughout the year.
2-4 Revised	Attend Stormwater Summit	SuAsCo/ SW Committee	Share information	No measurable goals planned for Permit Year 9. Because SuAsCo never held the watershed summit, this BMP is infeasible. The intent of this BMP is being met by the Stormwater Committee's local coordination (BMPs 2-2 and 2-3). Also, Town staff attend stormwater-related training including the American Public Works Association conference in Fall 2011 and the 2012 Center for Watershed Protection stormwater webcasts.	Assess value and need of BMP once EPA issues final IMS General Permit. Continue to attend stormwater meetings and trainings as staff time and budget allow.

Revised						
Revised						

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
3-1 Revised	Purchase GPS Equipment	DPW	In place by 7/04	GPS equipment purchased in Permit Year 2, and additional GPS equipment was purchased in Permit Year 9.	No activities planned- measurable goal met.
3-2 Revised	Map SW outlets	DPW	75% capture rate	The Town has extensive GIS map of the drainage system. This map shows the location of outfalls, receiving water bodies, and other elements of the drainage system including catch basins, manholes, and pipes. The Town continues to improve the mapping based on field surveys. 21 outlets were mapped in Year 9. DPW Highway crew gathered field information so that mapping of pipe, basins and outlets are correct in GIS system.	Continue to GPS outlets and note condition of pipe and if any dry weather flow.
3-3 Revised	Identify critical resources	DPW, Cons Comm	Map, notify abutters, develop BMP	The Town has identified critical resources and sensitive areas, such as vernal pools, priority habitats, well head protection areas, and areas of flooding. To address these critical resources, constructed another rain garden to eliminate direct untreated discharge to Concord River watershed. Provided oversight of new rain gardens at private development, explaining to homeowners purpose and maintenance for long term success.	Promote construction of more rain gardens.

3-4 Revised	Perform water quality testing	DPW	3 sites-residential, municipal, commercial	As part of Town's mapping efforts, outfalls are visually screened for dry weather flow (see BMP ID 3-2). No measurable goals were planned for permit year 9. BMP completed in prior permit years.	Revised BMP to address monitoring requirements included in new NPDES Permit.
3-5 Revised	Local bylaw-illicit discharges	DPW/Selectmen, Planning	Adopt bylaw	Town has adopted a Bylaw prohibiting non-stormwater discharges (illicit discharges and illegal dumping) to the drainage system. Bylaw includes appropriate enforcement procedures and actions..	Establish corresponding regulations.
Revised					
Revised					

3a. Additions

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4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
4-1 Revised	Develop awareness of construction site issues	DPW, Code, Cons Comm.	Write guidelines, distribute to builders	Bylaw to control Construction Site Runoff adopted. Bylaw requires erosion and sediment controls at construction sites disturbing one or more acres or less if part of common plan of development Filed three SWPPP's for DPW construction projects. Purchased Dirt Bag for DPW excavations in wet trench areas. Had sales/technical rep explain purpose/methods to Bedford Highway Division personnel.	Continue to require Erosion and Sedimentation controls in place for site work. Require stone entrances for construction sites, infiltration of roof runoff on all new buildings. Use hydro excavations for DPW projects.
4-2 Revised	Control construction site waste	DPW, Code, Cons Comm.	Reduce litter, erosion, dust, sediment	Require weekly trench paving on utility and road projects to maintain cleaner job sites and reduce erosion. Perform routing inspections of road, utility, site and subdivision projects. Also new Stormwater Bylaw helps control wastes such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at construction sites.	Continue as directed by new NPDES permit.
4-3 Revised	ESC plans for disturbances > 5,000 s.f.	Code, DPW, Cons Comm.	Draft bylaw by 7/07	New bylaw requires permit from Stormwater Authority for projects disturbing greater than 1 acre or less than one acre if part of a common plan of development.	Continue

4-4	Develop O&M plan for existing Town-owned systems	DPW	In place by 7/08	The BMP has been met through Town's operation and maintenance of Town owned facilities, Town's regular drainage system and street sweeping operations, and through Town's continued commitment to developing and following Stormwater Pollution Prevention Plans under the Construction General Permit for municipal projects. Also Town has spill prevention plan.	Continue operations and maintenance of Town-owned systems.
Revised					

4a. Additions

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
5-1 Revised	Develop bylaw to address stormwater impacts	Selectmen, Planning, DPW, Cons. SW Comm.	In place by 12/05	Adopted Stormwater Management Bylaw that regulates post-construction stormwater runoff from new development and redevelopment projects disturbing one or more acres (or less if part of common plan of development).	Develop Stormwater Management regulations to accompany bylaw. Implement bylaw.
5-2 Revised	Promote infiltration in new developments	Planning, DPW, Code, Cons Comm	No increase in flood levels or locations	Still require infiltration of roof runoff on new structures. Recommend rain gardens and bioretention during plan reviews. New Stormwater Management Bylaw sets performance standards for new projects by requiring compliance with the Mass. Stormwater Management Standards and Handbook.	Continue to promote infiltration in new developments.
5-3 Revised	Expand grass plots, reduce pavement widths	DPW, Planning	Improve infiltration	Still require LID techniques during plan review. Removed approximately 4,000 square feet of pavement during road reconstruction project in Spring Brook watershed.	Continue program.
5-4 Revised	Research rain barrels	DPW	Distribute to 10 households for pilot program	Measurable goal met - Program complete in Year 8	May continue in future years depending on interest, and available staff time and budget.

5a. Additions

5a-5	Keep current with regulations	Cons. Comm. Planning board, DPW		Continued to attend workshops, seminars, trade shows to understand and follow DEP and EPA regulations.	Continue
5a-6	Organize local stormwater permits	Cons. Comm., DPW		Maintaining data base of stormwater management plans for Cons. Comm. to track maintenance and reporting.	Add new filings as permitted.

5a-7	Repair failing catch basin	DPW		Rebuilt 30 catch basins to address sink holes around structures which cause additional sediment in drain system.	Continue to have catch basin cleaning crew mark which basins need repair and rebuilt as needed.
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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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities
6-1 Revised	Street sweeping, CB cleaning	DPW	2x per year in critical areas	Swept all roadways at least once, Great Road, industrial and municipal properties were swept monthly. All CB's cleaned. Eliminated use of winter sand. Removed trash, pallets, debris from 120 feet of ditch on Alfred Circle along Elm Brook and 60 feet of ditch at Hillside Ave.	Continue as directed by new NPDES permit. Researching switching to magnesium chloride to reduce impacts from corrosive calcium chloride.
6-2 Revised	Inspect older sewer mains	DPW, MWRA	TV 1 mile per year	Repaired/sealed 250 lf of sewer mains; clean, TV and inspect 2,575 lf of mains and repaired 725 vf of sewer manholes.	Continue I/I removal projects to eliminate sewer surcharge situations during heavy rain events.
6-3 Revised	Promote/use alternative fertilizers & pesticides	DPW, Cons Comm.	Reduce nitrogen loading	DPW uses fertilizers on an As-Needed basis. Conservation Commission prohibits salts, herbicides and blanket fertilizers on projects adjacent to resource areas.	Continue policy.
6-4 Revised	Develop spill prevention plan	DPW, Fire, DEP	Purchase spill control equipment	Spill prevention plan has been developed and is in place	Regularly check inventory.
6-5 Revised	Site better snow dump	DPW	Locate site by 12/05	In place. Did not have to use snow dump in Year 9.	

6a. Additions

6a-6	Provide yard waste disposal opportunities	DPW	Provide opportunities	Town landfill open on Saturdays from April thru November to bring yard waste to municipal compost site. Keeps residents from dumping in wetlands or on Town properties. Provided additional days after August hurricane and October snow storm.	Compost bin distribution program being set up through DPW.
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6a-7	Provide Town Sewer	DPW	Install new sewer mains to reduce # of septic systems. Reduce geese feces in areas along public water supply and open bodies of water	Goal has been achieved. Extending sewer service to last 10 +/- properties is cost prohibitive. Used dogs to chase geese away from Shawsheen Wellfield, Fawn Lake and Springs Brook Park.	
6a-8	Geese Management	DPW			Continue to control geese waste near waterways as needed. Support local industries that also use dogs to control geese gatherings.

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA)

Portions of the Town of Bedford's MS4 discharges into the Shawsheen River, which has a Final Bacteria TMDL. The *Final Bacteria TMDL for the Shawsheen River Basin* is being met by BMP ID # 1-1, 1-4, 1a-6, 3-2, 3-3, 3-4, 3-5, 4-1, 4-3, 5-1, 5-2, 6-1, and 6-2.

The Town's MS4 also discharges stormwater to the Concord River. The *Draft Pathogen TMDL for the Concord River Watershed* is not yet finalized and therefore the addition of BMPs to address the TMDL is not necessary at this time. The Town will assess TMDL requirements once the final IMS General Permit is issued.

7b. WLA Assessment

Water bodies within Town that are covered by the Shawsheen River Bacteria TMDL are listed below and shown on EPA's map at http://www.epa.gov/region1/npdes/stormwater/ma/305b303dMaps/Bedford_MA.pdf :

- Kiln Brook (MA83-10)
- Vine Brook (MA83-06),
- Spring Brook (MA83-14)
- Elm Brook (MA 83-05); and
- Shawsheen River (MA83-01, MA83-08 and MA83-17)

The following table summarizes the WLA and LA for the TMDL:

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 ≤ 200 10% ≤ 400	
Sewer leaks	0	0
Sanitary Sewer Overflow	0	0
Illicit Sewer Connections	0	
Failing Septic Systems	0	0
Direct Wildlife		Geomean ≤ 200 10% ≤ 400
Urban Stormwater Runoff	Geomean ≤ 200 10% ≤ 400	Geomean ≤ 200 10% ≤ 400

Because the TMDL is for a pollutant potentially found in stormwater discharges from the Town's MS4, the Stormwater Management Program includes BMPs that address the waste load allocation (WLA) from point sources that include illicit connections to the drainage system and urban stormwater runoff. Bedford continues to make progress on meeting the WLAs through implementing BMPs listed above and further described in

the annual report.

To address Illicit Sewer Connections WLA, the Town has implemented the following BMPs:

- Drainage system Mapping (BMPs 3-1 and 3-2);
- Stormwater Management By-law that prohibits illicit discharges and illegal dumping (BMP 3-5);
- Ongoing water quality monitoring and outfall inspections (BMPs 3-2 and 3-4);
- Inspection of and improvement to old sewer mains (BMP 6-2); and
- Education of Residents and Businesses (BMPs 1-1 and 1-4).

To address the Urban Stormwater Runoff WLA, the Town has implemented the following BMPs in the Stormwater Management Program:

- Education on proper pet waste disposal and distribution of pet waste bags (BMP 1a-6);
- Construction Site Runoff Control through the Stormwater Management Bylaw (BMPs 4-1 and 4-3);
- Post-construction Stormwater Management through the Stormwater Management Bylaw (BMP 5-1); and
- Catch Basin Cleaning and Street Sweeping to keep debris from filling catch basins and maintain proper drainage system function (BMP 6-1).

In addition, the Board of Health regulates the design, construction, and inspection of the few septic systems and leach fields in Town (Town is 95% sewer).

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 covering April 1, 2011 through March 31, 2012)

Programmatic

	(Preferred Units)		Response
	(y/n)	Y	
Stormwater management position created/staffed			
Annual program budget/expenditures **	(\$)		\$100,000
Total program expenditures since beginning of permit coverage	(\$)		\$125,000
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 %)	95%
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	Yes
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	0
Shoreline cleaned since beginning of permit coverage	(mi.)	3,170 ft
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	8
▪ community participation **	(# or %)	15%
▪ material collected **	(tons or gal)	400 gal
School curricula implemented	(y/n)	No

Legal/Regulatory

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

Outfall mapping complete	(Preferred Units)	Response
Estimated or actual number of outfalls *755 of which 377 are Town owned. 291 are defined by the Permit. Need to field check 18 known outlets.	(%)	90%
	(#)	755*

System-Wide mapping complete (complete storm sewer infrastructure)			(%)	95%
Mapping method(s)				
▪ Paper/Mylar			(%)	10
▪ CADD			(%)	5
▪ GIS			(%)	85
Outfalls inspected/screened **			(# or %)	14
Outfalls inspected/screened (Since beginning of permit coverage) 413 outlets checked. Of those, 273 are Town owned as defined by the Permit.			(# or %)	273*
Illicit discharges identified **			(#)	0
Illicit discharges identified (Since beginning of permit coverage)			(#)	1
Illicit connections removed **			(# and gpd)	0
Illicit connections removed (Since beginning of permit coverage)			(# and gpd)	0
% of population on sewer			(%)	95%
% of population on septic systems			(%)	5%
* Reported numbers have been fluctuating as proper database queries are being refined each year.				

Construction

	(Preferred Units)	Response
Number of construction starts (>1-acre) **	(#)	4
Estimated percentage of construction starts adequately regulated for erosion and sediment control **	(%)	85
Site inspections completed **	(# or %)	75
Tickets/Stop work orders issued **	(# or %)	0
Fines collected **	(# and \$)	0
Complaints/concerns received from public **	(#)	1 – Abbott La.

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	75%
Site inspections (for proper BMP installation & operation) completed **	(# or %)	15
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
Average frequency of catch basin cleaning (commercial/arterial or other critical streets) **	(times/yr)	2
Qty of structures cleaned **	(#)	1698
Qty. of storm drain cleaned **	(%, LF or mi.)	250 lf
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	250 ton
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost

Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$17,000
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	\$9.95/basin
• Disposal cost**	(\$)	0
Cleaning Equipment		
• Clam shell truck(s) owned/leased	(#)	0
• Vacuum truck(s) owned/leased	(#)	1
• Vacuum trucks specified in contracts	(y/n)	0
• % Structures cleaned with clam shells **	(%)	95
• % Structures cleaned with vacuor **	(%)	5

(Preferred Units) Response

Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	12
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	180 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$10,000

• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	\$83.75/hr
• Disposal cost**	(\$)	0
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• Vacuum street sweepers owned/leased	(#)	0
• Vacuum street sweepers specified in contracts	(y/n)	N
• % Roads swept with rotary brush sweepers **	%	100
• % Roads swept with vacuum sweepers **	%	0

Reduction (since beginning of permit coverage) in application on public land of: ("N/A" = never used; "100%" = elimination)		
▪ Fertilizers	(lbs. or %)	25%
▪ Herbicides	(lbs. or %)	N/A
▪ Pesticides	(lbs. or %)	25%
Integrated Pest Management (IPM) Practices Implemented	(y/n)	Y

(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	90%
	% CaCl ₂	10%
	% MgCl ₂	
	% CMA	
	% Kac	
	% KCl	
	% Sand	0%
Pre-wetting techniques utilized **	(y/n or %)	Y
Manual control spreaders used **	(y/n or %)	Y
Zero-velocity spreaders used **	(y/n or %)	Y
Estimated net reduction or increase in typical year salt/chemical application rate	(±lbs/ln mi. or %)	0

Estimated net reduction or increase in typical year sand application rate **	(±lbs/ln mi. or %)	0
% of salt/chemical pile(s) covered in storage shed(s)	(%)	100%
Storage shed(s) in design or under construction	(y/n or #)	N
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	1
Installed or planned treatment BMPs for public drinking water supplies and their protection areas	# or y/n	1
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	N