

5/1/12

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Municipality/Organization: Medford
EPA NPDES Permit Number: MA041049
MassDEP Transmittal Number: W228064
Annual Report Number Year 9
& Reporting Period: April 1, 2011 – March 31, 2012

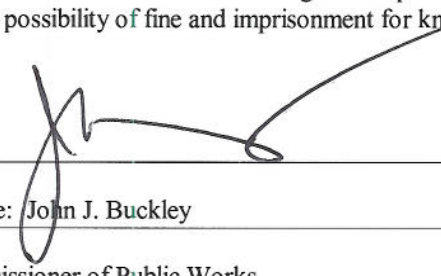
**NPDES PII Small MS4 General Permit
Annual Report
(Due: May 1, 2012)**

Part I. General Information

Contact Person: Mr. John J. Buckley Title: Commissioner 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: John J. Buckley
Title: Commissioner of Public Works
Date: 4/26/2012

Part II. Self-Assessment

During the 2011-2012 permit year, the City of Medford continued implementation of the tasks outlined in the 5-Year Plan under the 2003 NPDES Small Municipal Separate Storm Sewer Systems (MS4) permit. Numerous BMPs were attained prior to this period and have been continued, including updating stormwater related information on the City's website and making it available in the DPW office, hazardous and yard waste collection activities, maintaining signs, and holding public meetings in which stormwater related activities are discussed. In addition, the City continues to follow good housekeeping and pollution prevention procedures with street sweeping, catch basin cleaning, and other municipal operations.

2011-2012 Accomplishments:

The City's Stormwater System Ordinance continues to be in effect. The Stormwater Board has met to review the Stormwater Rules and Regulations including work on construction and post-construction BMPs. Stormwater Rules and Regulations are expected to be finalized in the coming permit year.

Illicit Discharge Detection and Elimination (IDDE) investigations were the primary focus of this year's efforts. IDDE investigations began again in the summer of 2011, focusing on priority areas (Winter Brook, Meeting House Brook, Little Creek, etc.) in accordance with the City's IDDE Plan. Since implementing the IDDE Plan in 2010, a total of 76 City-owned outfalls have been screened during dry weather to identify potential illicit connections, with 54 of those outfalls being investigated during the Year 9 reporting period. Eight illicit discharges/connections were identified, five of which have been removed. The City continues to make progress towards removing the remaining illicit connections.

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	Planned Activities for Subsequent Years
1A	Recycling/household hazardous waste information on website.	DPW	Update website throughout year.	Website was updated with new links and the collection dates for the 2011/2012 permit year. Information about the new recycling/trash program is included on the website. http://www.medford.org/Pages/MedfordMA_Recycle/index In addition, Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012.	Continue to update website with event dates.
1B	Recycling/household hazardous waste information on pamphlet in DPW Office.	DPW	Make pamphlet available daily in the DPW Office.	Pamphlet is available in the DPW Office and on the City's website. http://www.medford.org/Pages/MedfordMA_Recycle/index	Continue to display pamphlet in DPW Office.
1C	Recycling/household hazardous waste information on pamphlet to be mailed.	DPW	Mail pamphlet to 75% of residents.	Measure Complete. Information available on City website http://www.medford.org/Pages/MedfordMA_Recycle/index	Continue to update recycling and hazardous waste information on website.
1D	Bilingual Education Information	DPW, High School translator	Translate recycling pamphlet into Spanish and make available in DPW office	Recycling information is available on City of Medford website. http://www.medford.org/Pages/MedfordMA_Recycle/index	Continue to display pamphlet in DPW Office and on website.
1E	Arbor Day Celebration	DPW, Tree Warden	One talk will be given to one school per year.	Activities included tree pruning and removal of invasive species along the Mystic River.	Continue to include stormwater information in an event related to Arbor Day or Earth Day.
1F	"No Dumping Allowed" Signs	DPW, Parks Department	Existing signs in parks.	Existing signs were maintained.	Existing signs will be maintained.
1G	"No Dogs or Animals Allowed" Signs	DPW, Parks Department	Existing signs in parks.	Existing signs were maintained.	Existing signs will be maintained.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
1H	"Do not feed the Geese" Signs	DPW, Board of Health	Design and install one sign at Wright's Pond.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. "Do not feed the Geese" signs, procedures, and fines will be determined during this review.	Design and install "Do not feed the Geese" signs. Establish fines in upcoming year as Rules and Regulations are finalized.
1I	"No Littering" signs	DPW, Parks	Design and Install "No Littering" signs in Permit	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. "No Littering" signs, procedures, and fines will be determined during this review.	Design and install "No Littering" signs. Establish fines in upcoming year as Rules and Regulations are finalized.
1J	"No Household Trash" signs	DPW, Parks	Install City owned barrels that read "No household Trash"	Stormwater Rules and Regulations have been drafted. "No Household Trash" signs, procedures, and fines will be determined during this review.	Design and install "No Household Trash" signs. Establish fines in upcoming year as Rules and Regulations are finalized.
1K	Geese Dropping Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3, and 5.	None required.	Completed.
1L	Pet Waste Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3 and 4	None required. Pet waste information is also available on the City's website at: http://www.medford.org/Pages/MedfordMA_Energy/stormwater In addition, Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012.	Completed.
1M	Stormwater Video on Local Cable Channel	DPW, Local Cable Access Staff	City will buy a stormwater educational video and play on a regular basis the third year.	None required. Stormwater pollution information is also available on the City's website at: http://www.medford.org/Pages/MedfordMA_Energy/stormwater In addition, Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012.	Play stormwater video on Public Access channel once per year.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
1O	Publicize fines for littering, illegal dumping and failure to pick up pet waste in newspaper	DPW, Stormwater Advisory Committee	Publish fines in paper when Ordinances are approved and established.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review. The City's Litter Law and associated fines are posted on the website at: http://www.medford.org/Pages/MedfordMA_Energy/stormfees Illegal dumping notification procedures are posted on the website at: http://www.medford.org/Pages/MedfordMA_Engineering/Website%20SSO%20and%20IDDE%20Message.pdf In addition, Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012.	Establish and publicize fines in upcoming year as Rules and Regulations are finalized. Implement new Public Education Campaign.
Revised		DPW, Stormwater Board			
1P	Educate Local Businesses	DPW, Environmental Agent	Distribute flyers to 75% of businesses in the third year.	None required.	Invite City Businesses to annual meetings.
1Q	Assess stormwater information at existing City Events.	DPW	Assess one existing City event for opportunities to include stormwater information.	Provided stormwater information at City Hall. Regular Conservation Commission meetings are held at City Hall and are open to the public. Stormwater issues are routinely discussed at these meetings. In addition, Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012.	Continue to provide stormwater information at City Hall and for local events and implement new Public Education Campaign.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
2A	Oil-Based Paint Collection at DPW Yard	DPW, Recycling	DPW to accept Latex/oil-based paint from residents at DPW Yard once a month between May and October.	Residents were able to bring latex and oil-based paint to the DPW Yard (see Part V).	DPW will continue to collect these materials at the DPW Yard.
2B	Hazardous Waste Drop-off in Lexington	DPW, Recycling	Advertise the hazardous waste drop-off in Lexington in mailer and daily in DPW office as a pamphlet.	Advertised this service in the recycling/HHW pamphlet and on the City website. Medford relies on the Town of Lexington to collect these materials at the Minuteman Hazardous Household Products Facility.	Continue to advertise this service.
2C	Curbside recycling	DPW, Recycling	DPW to pick up recyclables once every two weeks year-round.	The DPW picked up recyclables every other week (see Part V).	Continue to provide this service.
2D	Mercury Exchange	DPW, Recycling, Board of Health	DPW to accept mercury at the DPW Yard once/month May-October.	Residents were allowed to drop off mercury products at the DPW Yard on specified days.	Continue to provide this service.
2E	Nickel-Cadmium Recycling	DPW, Recycling	DPW to accept rechargeable nickel-cadmium batteries in the DPW office.	Residents were allowed to drop off batteries at the DPW office daily during regular office hours.	Continue to provide this service.
2F	Leaf and yard waste collection	DPW, Recycling	DPW to collect leaf and yard waste every other week curbside from May to November.	DPW collected leaf and yard waste every other week April through November (see Part V). Schedule posted on website.	Continue to provide this service.
2G	Mystic River Cleanup	Friends of the Mystic River Watershed Association, DPW	DPW to collect trash volunteers pick up at the Mystic River Cleanup Day.	Volunteers participated in Mystic Community Earth Day for clean-up, trail clearings and plantings along the Mystic River.	Continue to provide cleanup and disposal services for Mystic River Watershed Events.

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
2H	Public Meetings/Notification	DPW	Hold one public meeting to present stormwater program progress.	Medford began planning a targeted Public Education Campaign in October 2011 to be implemented throughout 2012, including public meeting/participation opportunities.	Hold a public meeting in Year 10.
2I	Stormwater Contact to receive and address public complaints or concerns	DPW	Establish a Stormwater Contact	Stormwater contact established, (Carey Duques, Energy and Environment Dept., 781-293-2137) identified at public meetings, in newspaper, and on website.	Continue to expand publicity for this contact through newspaper, etc.
2J	Earth Day Activity	DPW – Energy and Environment Department	Include a stormwater activity in Earth Day Events	No stormwater activities included in Earth Day events. Mystic Community Earth Day included clean-up, trail clearings and plantings along the Mystic River.	Continue to include stormwater activity/information at Earth Day and Clean Energy Events organized by the City. Evaluate new opportunities for including stormwater outreach at these events.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
3A	Fines for Illegal Dumping	DPW	Establish fines for illegal dumping.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review. The City's Litter Law and associated fines are posted on the website at: http://www.medford.org/Pages/MedfordDMA_Energy/stormfees Illegal dumping notification procedures are posted on the website at: http://www.medford.org/Pages/MedfordDMA_Engineering/Website%20SSO%20and%20IDDE%20Message.pdf	Establish and publicize fines in upcoming year as Rules and Regulations are finalized.
3B	Enforcement of Fines for Littering and Pet Waste	Police	More stringent enforcement of Fines for Littering and Pet Waste	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Signs, procedures, and fines will be determined during this review. The City's Litter Law and associated fines are posted on the website at: http://www.medford.org/Pages/MedfordDMA_Energy/stormfees Illegal dumping notification procedures are posted on the website at: http://www.medford.org/Pages/MedfordDMA_Engineering/Website%20SSO%20and%20IDDE%20Message.pdf	Establish and publicize fines in upcoming year as Rules and Regulations are finalized. Implement stringent enforcement program with Police.
3C	Expand storm sewer map to include all outfalls.	DPW, Engineering	Finish mapping by Year 5.	The City of Medford finalized their stormwater GIS mapping in 2011.	Continue to update stormwater system in GIS, as needed.
3D	Illicit Discharge Ordinance	DPW, Engineering, Building, Law	Float new Ordinance, one year of comment period, continue education.	Measure completed.	Measure completed.

3E	Detection and Elimination Plan	DPW, Engineering	Trace the Source of the Illicit Discharges.	IDDE work commenced again in summer 2011 in accordance with the City's IDDE Plan and the Clean Water Act Administrative Order issued by the EPA in August 2009. Detailed compliance reports were submitted to the EPA in July 2011 and January 2012 regarding IDDE work. This year, the City identified 8 illicit discharges and has removed 5. A table summarizing this year's IDDE investigations is included in Appendix A to this report.	Complete work according to IDDE Plan implementation schedule.
3F	Illicit Discharge Education for Public	DPW, Engineering	Included in Measure 1	Included In Measure 1	Included In Measure 1
3G	Illicit Discharge Education for Municipal Employees	DPW	Included in Measure 6	Staff received overview training on the Stormwater Ordinance and IDDE Program at a workshop held for DPW and other municipal employees.	Continue to update staff on IDDE Program goals, procedures, and status.

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 9	Planned Activities for Subsequent Years
4A	Erosion and Sediment Control Ordinance "Construction Ordinance"	DPW, Engineering, Building, Legal	Float new Ordinance, one year of comment period, continue education.	Measure completed.	Measure completed.
4B	Erosion and Sediment Control BMPs/ Requirements	DPW, Engineering, Building, Legal	Prepare Draft requirements to be referenced or incorporated into the Construction Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Erosion and sediment control BMPs and requirements will be established during the review process.	Finalize Erosion and Sediment Control BMPs/Requirements in upcoming year as Rules and Regulations are finalized.
4C	Construction Site Plan Review Procedures	DPW, Engineering, Building, Legal	Prepare draft Construction Site Plan Review Procedure to be included or referenced Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Construction site plan review procedures will be established during the review process.	Finalize Construction Site Plan Review Procedures in upcoming year as Rules and Regulations are finalized.
4D	Construction Site Inspection and Enforcement Procedures	DPW, Engineering, Building, Legal	Prepare draft Site Inspection and Enforcement Procedure to be included or referenced in Ordinance.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Inspection and Enforcement procedures for construction sites will be established during the review process.	Finalize Site Inspection and Enforcement Procedures in upcoming year as Rules and Regulations are finalized.
4E	Stormwater Contact to receive and address public complaints or concerns	DPW	Expand publicity regarding stormwater contact (paper, etc.)	Stormwater contact has been established: Carey Duques, 781-293-2137. Contact information has been provided at public meetings, on website, and in articles published in the Medford newspaper.	Update and maintain contact information on website and distributed pamphlets.
4F	Minimum BMPs to Consider and thresholds	Stormwater Advisory Committee	Finalize City's decision on thresholds and minimum BMP requirements and include information in Draft Ordinances.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Thresholds and minimum BMP requirements will be established during the review process.	Finalize thresholds and minimum BMP requirements in upcoming year as Rules and Regulations are finalized.

Revised		DPW, Engineering, Stormwater Board			
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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 9	Planned Activities for Subsequent Years
5A	Encouragement of "Better Site Design"	DPW, Engineering, Building, Law	Formal document on better site design by the end of Year 5	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Better site design practices will be established during the review process.	Finalize better site design practices in upcoming year as Rules and Regulations are finalized.
5B	Post-Construction Runoff Ordinance	DPW, Engineering, Building, Law	Float new ordinance, one year of comment period, continue education. Prepare final procedures.	Measure completed.	Measure completed.
5C	Choose Structural and Non-Structural BMPs	DPW, Engineering		Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Procedures for choosing structural and non-structural BMPs will be established during the review process.	Finalize procedures for choosing structural and non-structural BMPs in upcoming year as Rules and Regulations are finalized.
5E	Procedures for Implementation of Structural BMPs	DPW, Engineering	Prepare final procedures.	Stormwater Rules and Regulations have been drafted and are under review by the Stormwater Board. Procedures for the implementation of structural BMPs will be established during the review process.	Finalize structural BMPs implementation procedures in upcoming year as Rules and Regulations are finalized.

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	Planned Activities for Subsequent Years
6A	Regular Street Sweeping	DPW, Highway	Sweep main Streets year-round; Sweep all streets and municipal lots twice per year.	DPW swept all streets twice (spring and fall) and swept main streets weekly throughout the year (see Appendix B).	Continue existing sweeping schedule.
6B	Regular Catch Basin Cleaning	DPW, Highway	Cleaned catch basins once per year as stated in the revisions for the 2003/2004 Annual Report.	Catch basin cleaning continued. 2,070 catch basins cleaned in 2011/2012 cleaning season. Cleaned storm drain lines as needed.	Continuing cleaning catch basins annually. Developing targeted informational mailing for the neighborhoods associated with problematic catch basins.
6D	Employee Training	DPW, Engineering	Continue existing training; determine necessary personnel and topics; schedule training.	A training workshop covering the City's stormwater management program – an overview of the Stormwater Ordinance, IDDE Program, and good housekeeping procedures – was given for DPW and other municipal employees.	Continue annual training.
6E	Municipal O&M	DPW, Highway, Parks, Engineering	Develop Draft BMPs for Pollution Source Reduction/Elimination from Municipal Activities including waste disposal procedures.	Funding not available to continue salt shed design.	City will include salt shed in redesigned DPW yard if funding is available.
6H	Geese Maintenance Contract	DPW, Engineering	Reduce permanent geese populations near water bodies.	Geese maintenance contract was not continued.	Continue discouraging geese; evaluate effectiveness of geese maintenance program.

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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – for Subsequent Years
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

The City of Medford keeps records of operation and maintenance activities, such as catch basin cleaning and street sweeping. A summary of these records is below. See Appendix B for list of sewer and drain repairs.

- The City collected 571 tons of street sweepings during the spring 2011 street sweeping. Spring 2012 sweeping currently underway (April 2012).
- The City collected 1,956 cubic yards of leaves in the fall of 2011, which were hauled out by contractor Vanaria & Sons. The cost of the collection and disposal was \$3,000.
- Waste Management collected 1,947 tons of residential yard waste between April and December 2011. The cost of disposal was \$32.80/ton.
- The City cleaned 2,070 catch basins during Permit Year 9. The cleanup cost, including disposal costs, was \$27.80 per catch basin.
- The City repaired or replaced 13 catch basins, 7 drain manholes and 1 sewer manhole during Permit Year 9.
- 4,824 feet of sewer and 2,636 feet of drain were inspected and cleaned; 332 feet of drain were installed. Also, 465 linear feet of sewer main and 381 feet of sewer service pipe were replaced or installed.

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	(y/n)	No
Annual program budget/expenditures **	(\$)	\$720,000 (est.)
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 %)	Not Known
Stormwater management committee established	(y/n)	Yes. Stormwater Board
Stream teams established or supported	(# or y/n)	Yes – supported
Shoreline clean-up participation or quantity of shoreline miles cleaned **	(y/n or mi.)	None – no event this year
Shoreline cleaned since beginning of permit coverage	(mi.)	
Household Hazardous Waste Collection Days		
▪ days sponsored **	(#)	6
▪ community participation **	(# or %)	
▪ material collected **	(tons or 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	
▪	Erosion & Sediment Control							X	
▪	Post-Development Stormwater Management							X	

Mapping and Illicit Discharges

		(Preferred Units)		Response
Outfall mapping complete		(%)		100
Estimated or actual number of outfalls		(#)		111
System-Wide mapping complete (complete storm sewer infrastructure)		(%)		100
Mapping method(s)				
▪	Paper/Mylar	(%)		95
▪	CADD	(%)		80 (est.)
▪	GIS	(%)		100
Outfalls inspected/screened **		(# or %)		54
Outfalls inspected/screened (Since beginning of permit coverage)		(# or %)		111
Illicit discharges identified **		(#)		8
Illicit discharges identified (Since beginning of permit coverage)		(#)		
Illicit connections removed **		(#); and (est. gpd)		5
Illicit connections removed (Since beginning of permit coverage)		(#); and (est. gpd)		
% of population on sewer		(%)		>99
% of population on septic systems		(%)		<1
Construction				

	(Preferred Units)	Response
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)	No
Low-impact development (LID) practices permitted and encouraged	(y/n)	Yes

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)	1
Qty of structures cleaned **	(#)	2,070
Qty. of storm drain cleaned **	(%, LF or mi.)	4,636 feet
Qty. of screenings/debris removed from storm sewer infrastructure **	(lbs. or tons)	198 tons
Disposal or use of screenings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Landfill
Basin Cleaning Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	\$78,262 contract
• Hourly or per basin contract rate **	(\$/hr or \$ per basin)	N/A
• Disposal cost**	(\$)	Included in contract cleaning 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 vacor **	(%)	

(Preferred Units)		Response
Average frequency of street sweeping (non-commercial/non-arterial streets) **	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets) **	(times/yr)	~29
Qty. of sand/debris collected by sweeping **	(lbs. or tons)	608.4 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.) **	(location)	Compost
Annual Sweeping Costs		
• Annual budget/expenditure (labor & equipment)**	(\$)	In house
• Hourly or lane mile contract rate **	(\$/hr. or ln mi.)	
• Disposal cost**	(\$)	
Sweeping Equipment		
• Rotary brush street sweepers owned/leased	(#)	1
• 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

Reduction (since beginning of permit coverage) in application on public land of:		
▪ Fertilizers	(lbs. or %)	
▪ Herbicides	(lbs. or %)	
▪ Pesticides	(lbs. or %)	
Integrated Pest Management (IPM) Practices Implemented		No

Average Ratio of Anti-/De-Icing products used ** (also identify chemicals and ratios used in specific areas, e.g., water supply protection areas)	(Preferred Units)		Response
	% NaCl	NaCl and sand only. Percent varies by storm requirements.	
	% CaCl ₂		
	% MgCl ₂		
	% CMA		
	% Kac		
	% KCl		
	% Sand		
	(y/n or %)	No	
Pre-wetting techniques utilized **	(y/n or %)	Yes	
Manual control spreaders used **	(y/n or %)	No	
Zero-velocity spreaders used **	(±lbs/ln mi. or %)	0	
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 **	(%)	0	
% of salt/chemical pile(s) covered in storage shed(s)	(y/n or #)	One in design	
Storage shed(s) in design or under construction	(y/n)	0	
100% of salt/chemical pile(s) covered in storage shed(s) by May 2008			

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	
• Treatment units induce infiltration within 500-feet of a wellhead protection area	# or y/n	

Appendix A:
Illicit Discharge Detection and Elimination Summary
Table

Illicit Discharge Detection & Elimination Summary Table for Year 9

Item	Total
Outfalls Inspected (dry weather)	54
Outfalls Sampled (dry weather)	3
Manholes Inspected	15
Manholes Sampled	4
Catch Basins Inspected	3
Catch Basins Sampled	3
Buildings Dye-tested	12
Drainage Structures Dye-tested	0
Closed-circuit Television Inspection (LF)	Drain: 2,636 Sanitary Sewer: 4,824
Illicit Discharges Identified	8
Illicit Discharges Removed	5
Estimated Amount of Illicit Flow Removed (gpd)	1100

Appendix B:
Pollution Prevention and Good Housekeeping in
Municipal Operations

2011-2012 Sewer and Storm Drain Repairs

**City of Medford, Massachusetts
2011-2012 Storm Drain and Sewer Repairs**

Collection System	Date	Location	Company	Field Work Completed	Length of Pipe (linear feet)	Size of Pipe	Illicit Discharges Removed	Comments
Drain	APR 2011	Ashcroft Rd	Tropeano	5' Pre-cast MH		12"		
Drain	APR 2011	Ashcroft Rd	Tropeano	DIP / RCCP / HDPE	186.3	12"		
Drain	6/2/2011	Medford Sq	City Forces	Repaired CB				
Drain	6/2/2011	Winthrop St	City Forces	Repaired CB				
Drain	7/6/2011	Charmwood Rd	City Forces	Repaired drain line				
Drain	7/7/2011	Cushing St	City Forces	Repaired CB				
Drain	7/12/2011	Glenwood Ave	NWM	TV/C	302	24" CMP		
Drain	7/12/2011	Sherman Ct	NWM	TV/C	354	24" CMP		
Drain	7/13/2011	Ramshead Road	NWM	TV/C	883	20" CMP		
Drain	7/13/2011	Lawrence Rd	City Forces	Repaired CB				
Drain	7/14/2011	Winchester St	City Forces	Repaired CB				
Drain	7/14/2011	Ross St	NWM	TV/C	70	24" CMP		
Drain	7/18/2011	Lauriat Pl	NWM	TV/C	502	12" CMP		
Drain	7/18/2011	Washington Pl	NWM	TV/C	32	12" CMP		
Drain	7/18/2011	Hamlin Ave	NWM	TV/C	206	20" CMP		
Drain	7/19/2011	Sherman Place	NWM	TV/C	218	20" CMP		
Drain	7/19/2011	Lambert Street @ Grant	City Forces	unknown stub pipe to DMH 941 plugged				
Drain	7/19/2011	Guild St	City Forces	repaired DMH				
Drain	7/20/2011	Keith Road	NWM	TV/C	69	20" CMP		
Drain	7/20/2011	Gourley Rd	City Forces	repaired CB				
Drain	7/20/2011	St. Francis St	City Forces	repaired CB				
Drain	7/25/2011	Winter St	City Forces	repaired CB				
Drain	7/26/2011	Winslow Ave	City Forces	repaired CB				
Drain	8/4/2011	Woburn St. @ Playstead Rd	City Forces	Repaired CB				
Drain	8/10/2011	Winthrop St @ High School	City Forces	Replaced DMH				
Drain	8/17/2011	Meetinghouse Brook	NWM	Cleaning debris				
Drain	8/17/2011	Winchester St	City Forces	Repaired CB & DMH				at Winthrop St - 100cy removed
Drain	8/24/2011	Pembroke St	City Forces	Repaired drain line				
Drain	9/30/2011	Walsh St @ Fulton St	City Forces	Installed CB, drywell and perf. Pipe	20	8"		
Drain	10/11/2011	Robinson Rd & Winthrop St	City Forces	Repaired CB				
Drain	10/24/2011	Seventh St	Mike Shea Co.	installed drain ; precast MH	126	8" PVC		
Drain	11/19/2011	Palmer St @ Horne Ave	City Forces	Rebuilt DMH				
Drain	12/15/2011	20 Intervale Ave	City Forces	Buried DMH brought up to grade				
Drain	2/8/2012	Sycamore Ave	City Forces	Repaired drain line				
Sewer	APR 2011	Ashcroft Rd	Tropeano	4' Pre-cast MH		8"		
Sewer	APR 2011	Ashcroft Rd	Tropeano	8" PVC main	364	8"		
Sewer	APR 2011	Ashcroft Rd	Tropeano	6"PVC services	195	6"		

**City of Medford, Massachusetts
2011-2012 Storm Drain and Sewer Repairs**

Collection System	Date	Location	Company	Field Work Completed	Length of Pipe (linear feet)	Size of Pipe	Illicit Discharges Removed	Comments
Sewer	APR 2011	Ashcroft Rd	Advanced Pipe	8" CIPP	1280			
Sewer	6/3/2011	578 Main St	City Forces	Replaced Sewer Service	25	6" PVC		
Sewer	6/3/2011	220 Grove St	CJ Doherty	Replaced Sewer Service	10	6" PVC		
Sewer	6/16/2011	103 Bowen Ave	City Forces	Replaced Sewer Service	8	6" PVC		
Sewer	7/7/2011	3 Water St	City Forces	Replaced Sewer Service	19	6" PVC		
Sewer	7/19/2011	Lambert Street @ Grant	City Forces	Pipe installed / break fixed	10	8"		
Sewer	7/21/2011	Schoolhouse Rd	NWM	TV/C	347	8" VCP		
Sewer	7/21/2011	Daly Road	NWM	TV/C	383	12" CAS		
Sewer	7/21/2011	Brookside Parkway	NWM	TV/C	265	24"PVC		
Sewer	7/22/2011	Brookside Parkway	NWM	TV/C	924	8" VCP		
Sewer	7/22/2011	Fellsway West @ Grant Ave	NWM	TV/C	137	8" VCP		
Sewer	7/22/2011	Grant Ave	NWM	TV/C	336	8" VCP		
Sewer	7/27/2011	Badger Rd	NWM	TV/C	586	8" VCP		
Sewer	7/28/2011	Burbank Rd	NWM	TV/C	801	10" VCP		
Sewer	7/28/2011	Winthrop St @ Burbank / Badger	NWM	TV/C	153	10" VCP		
Sewer	7/28/2011	Winthrop St @ Burbank Rd	NWM	TV/C	115	8" VCP		
Sewer	7/28/2011	Water St	NWM	TV/C	93	8" VCP		
Sewer	7/28/2011	Grant Ave	NWM	TV/C	425	8" VCP		
Sewer	8/1/2011	12 Brackett St	City Forces	Replaced Sewer Service	7	6" PVC		
Sewer	8/1/2011	7 Draper St	City Forces	Replaced Sewer Service	12	6" PVC		
Sewer	8/3/2011	38 Ross St	City Forces	Replaced Sewer Service	25	6" PVC		
Sewer	9/23/2011	33 Brackett St	CJ Doherty	Replaced Sewer Service	5	6" PVC		
Sewer	9/30/2011	914 Highland Ave	CJ Doherty	Replaced Sewer Service	5	6" PVC		
Sewer	10/5/2011	51 Maurice St	City Forces	Replace sewer main	24	6" pvc		
Sewer	10/6/2011	Horne Ave	City Forces	Replace sewer main	35	8"		
Sewer	10/26/2011	Horne Ave @ Palmer	City Forces	Replace sewer main	42	6"		
Sewer	11/1/2011	Salem St @ Grant / Spring	NWM	TV/C	259	10" VCP		
Sewer	12/14/2011	20 Intervale Ave	Drains Unlimited	Sewer Service CCTV				
Sewer	12/14/2011	102-104 Forest St	Drains Unlimited	Sewer Service CCTV				
Sewer	12/14/2011	90 Forest St	Drains Unlimited	Sewer Service CCTV				
Sewer	12/19/2011	102-104 Forest St	City Forces	Replaced sewer service	14	6" PVC	330gpd	illicit discharge removed, broken service was leaking into drain main
Sewer	12/19/2011	90 Forest St	City Forces	Replaced Sewer Service	30	6" PVC	330gpd	illicit discharge removed, broken service was leaking into drain main
Sewer	12/27/2011	20 Intervale Ave	City Forces	Replaced Sewer Service	20	6" PVC	440gpd	illicit discharge removed, sewer service disconnected from DMH
Sewer	3/2/2012	69 South St	City Forces	Replaced sewer service	6	6" PVC		

Note:
TV/C: pipe televised and cleaned