Municipality/Organization: City of Medford

EPA NPDES Permit Number: MA041049

MaDEP Transmittal Number: W- 035578

Annual Report Number
& Reporting Period: No. 4: March 07-March 08

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Paul Gere 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: Paul Gere

Printed Name: Paul Gere

Title: Commissioner of Public Works

Date: 4/29/08

Part II. Self-Assessment – City Of Medford NPDES Compliance

During the 2007-2008 permit year, the City of Medford continued implementation of its 5-Year Plan under the NPDES permit program for Municipal Separate Storm Sewer Systems (MS4). The specific tasks that the City had identified in its 5-Year Permit were largely completed during this period, in addition to detailed stormwater investigations required by EPA Section 308 Requests for Information (RFI).

The BMPs that were modified or not completed during the 2007-2008 year are shown in Table II-A, which follows this summary, as well as being identified in Part III, the Summary of BMPs. As the City has reported previously, some of the proposed BMPs have been delayed until Ordinances are adopted which will allow their enforcement. No BMPs were eliminated from the submitted plan. The extended time frames for those items not completed are due primarily to the lack of staff to implement the new measures and to the continued Ordinance development process. The City does not have the staff time or monetary resources to fully implement the ordinances and can therefore not finalize them until they are able to do so. Furthermore, the Commonwealth of Massachusetts has recently made significant changes to the state's Stormwater Management Regulations and the City may choose to refer to these new regulations in their stormwater ordinance. In order to save time and avoid the adoption of guidelines which conflict with those of the State, the City has postponed further development of its ordinances and guidelines until the City can review the Massachusetts Department of Environmental Protection (MADEP) regulations.

2007- 2008 Accomplishments

The City of Medford is continuing to work on the process of electronic data collection (GIS & GPS) to complete mapping of the City's outfalls and storm drain system, a time-consuming and expensive task. Due to budgetary constraints, there is no dedicated GIS operator and additional mapping continues to be performed as staff time allows. These efforts include digitizing numerous record plans of the City's storm drain system and performing field verification of their location and condition.

Since Permit Year 4, consultants for the City have been field verifying and updating a GPS survey of the City's outfalls. To date, 100 outfalls have been located, entered into a GIS database, photographed, and sampled for dry weather flows. Information obtained from the Massachusetts Department of Conservation and Recreation (DCR) identified 103 outfalls located in Medford for which the DCR is responsible. Coordination of these two data sources is needed so that the City may focus their efforts on outfalls that are the City's responsibility. A map of all the outfalls identified to date and their sampling status is shown in Figure 1.

The City continued with an upgraded street-sweeping program made possible by the acquisition in April 2007 of another street sweeper. This program includes weekly street-sweeping on 12 specified heavily-traveled roads. This program included installation of street signs and enforcing a parking ban on sweeping nights (see street listing in Appendix C).

The City has re-established its contract with a catch basin cleaning firm. According to the documentation included in Appendix C, 2,500 catchbasins were cleaned during Permit Year 5.

The majority of stormwater discharges in the City are to the Mystic and Malden Rivers, which are both listed on the State 303(d) list as currently impacted in Category 5 (requiring a TMDL). The Mystic River recently received a "D" rating for water quality by the Massachusetts DEP. At this time, no TMDLs have been approved for either river.

The City is working diligently to identify potential sources of pollutants, and specifically bacteria at four outfalls discharging to the Mystic River. In 2006, the City issued a 3-year on-call stormwater services contract with the firm of Vanasse Hangen Brustlin, Inc. (VHB) to address all stormwater related issues, including the investigation of sources of bacteria to stormwater discharges. Preliminary investigations have narrowed the search area and have located two connections that could have allowed sanitary sewage backups to be released to the Mystic River. One of these connections was sealed with concrete on December 19, 2006 and the other on August 16, 2007, thereby removing the possibility of future illicit discharges. These investigations and remediation measures are documented in the Section 308 Request for Information response included in Appendix B.

As part of an effort to address consistently high bacterial loading at another outfall, a focused investigation of the Winter Brook watershed was begun in February 2007. This watershed is culverted over most of its length, so the investigation focused on isolation of sub-watersheds within the drainage network to pinpoint possible sources of contamination leading to the outfall. The most recent findings of the Winter Brook investigation are included in Appendix B of this submittal.

As stated in the March 2003 Notice of Intent submittal, information found at the U.S. Fish and Wildlife website, no federally- listed endangered or threatened species, or critical habitat are located within the City of Medford. A review of Massachusetts Natural Heritage and Endangered Species (NHESP) data that is maintained on the MassGIS website indicates that the area of the Middlesex Fells Reservation contains Priority Habitats of state-listed Rare Species. Although these areas are within the City limits of Medford, this area consists predominantly of water supply reservoirs and surrounding upland areas owned by the Massachusetts DCR. Few, if any, of Medford's storm sewer system drains to these areas. The few outfalls that may exist are unlikely to impact the protected species in this area which appear to be predominantly upland plants and animals. When all outfall locations are confirmed, a follow up letter will be sent to the USFWS for confirmation. The National Marine Fisheries Service will also be consulted with regard to potential impact of stormwater discharges to threatened or endangered species in the lower Mystic River and the Malden River.

According to the listing on the National Register of Historic Places website, there are numerous historic properties listed or eligible in Medford. As described in the Notice of Intent for this permit, the determination of potential impacts to historic properties and archaeological resources is still pending. When all outfall locations are confirmed, a letter will be sent to the Massachusetts Historical Commission to verify that stormwater discharge related activities will not result in an adverse effect on any archeological resources or historic properties. It is not anticipated that any Medford outfalls will negatively impact historic properties or archaeological resources.

Infiltration and groundwater recharge are generally not feasible in highly urbanized areas such as Medford. Small lots, underground utilities, and potential impacts to basements and neighboring properties often prohibit this practice. Additionally, the City is not dependent on groundwater for its drinking water supply or to support extensive wetland systems. The City is at the end of the Mystic and Malden River watersheds, is close to their outlet into Boston Harbor, and base flow to these rivers is not dependent on recharge in this area. However, the proposed Post Construction Ordinance to be adopted by the City will address recharge potential and promote good practices where feasible.

The Massachusetts DEP adopted a revised Stormwater Management Policy on January 2, 2008. The City is evaluating the potential adoption of the new MADEP regulations as part of the local ordinances. The City has been successful in educating municipal employees and engaging every department in the implementation of the Stormwater Management Plan as submitted.

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

The Mystic River and Malden River are in Category 5, requiring TMDLs but with none approved to date. The River, as discussed previously, was recently classified as a "D" in terms of water quality. Concerns relative to water quality include stormwater runoff and illicit discharges. Medford has identified key problem areas and is actively investigating and removing any illicit discharges that are found. The Mystic River Watershed Association (http://www.mysticriver.org/) maintains an on-going water quality-monitoring program for the Mystic and Malden Rivers and shares its findings with the City.

General BMPs

BMP Description	**Responsible Dept./Person Name**	**Measurable Goal(s)**	**Progress on Goal(s) – Permit Year 5**	**Planned Activities – Permit Year 5**
Monitoring	DPW	Evaluation of program compliance.	Records were kept of activities conducted for program compliance.	Continue monitoring.
Annual Report	DPW	Submit Annual Report to EPA.	Submitted Annual Report	Submit Annual Report.
Annual Public Meeting	DPW	Hold one Public Meeting.	DPW held a public meeting on December 12, 2007.	Hold one public meeting.
Recordkeeping	DPW	Keep records of activities conducted for program compliance for 5 years.	Records were kept of activities conducted for program compliance.	Continue recordkeeping.

Table II – A – Revisions to Specific Measures for Permit Year 5

BMP ID #	BMP Description	Responsible Dept.	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activity for Subsequent Years
3A	Fines for Illegal Dumping	DPW	Establish fines for illegal dumping.	Proposed fines for illegal dumping have been reviewed. They are awaiting approval as part of the entire Ordinance development process.	Finalize fines for illegal dumping. Publicize with general ordinance information as revisions to existing ordinances.
	Revision			Delayed until Ordinances are adopted.	
3B	Enforcement of Fines for Littering and Pet Waste	Police	More stringent enforcement of Fines for Littering and Pet Waste	Fines are proposed but aggressive enforcement is delayed until Ordinances are finalized.	Finalize and publicize fees and then implement stringent enforcement program with Police.
	Revision			Delayed until Ordinances are adopted.	
4A	Erosion and Sediment Control Ordinance "Construction Ordinance"	DPW, Engineering, Building, Legal	Float new Ordinance, one year of comment period, continue education.	Comments on Draft Ordinance reviewed; entering second round of drafts.	Attempt to pass ordinance, continue comment period and educate more if necessary.
	Revision			Delayed until Ordinances are adopted.	
4B	Erosion and Sediment Control BMPs/ Requirements	DPW, Engineering, Building, Legal	Prepare Draft requirements to be referenced or incorporated into the Construction Ordinance.	Draft BMP criteria are defined and/or referenced in the Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	
4C	Construction Site Plan Review Procedures	DPW, Engineering, Building, Legal	Prepare draft Construction Site Plan Review Procedure to be included or referenced Ordinance.	Draft Construction Site Plan Review Procedures are included or referenced in the completed Draft Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	

Table II – A – Revisions to Specific Measures for Permit Year 5 (continued)

BMP ID #	BMP Description	Responsible Dept.	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activity for Subsequent Years
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.	Draft Site Inspection and Enforcement Procedures are included or referenced in Draft Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	
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.	Erosion and Sediment Controls and Post-Development requirements, are included in the Draft Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	
5B	Post-Construction Runoff Ordinance	DPW, Engineering, Building, Law	Float new ordinance, one year of comment period, continue education.	Distributed Draft Ordinance for one year review and comment period.	Attempt to pass ordinance, continue comment period and educate more if necessary.
	Revision			Delayed until Ordinances are adopted.	
5C	Choose Structural and Non-Structural BMPs	DPW, Engineering	Prepare final procedures.	Proposed requirements are to be included in the construction guidelines material to be developed after ordinances are approved.	Continue to update list of approved and recommended management practices to reflect current research and the on-going evolution of stormwater technology.
	Revision			Delayed until Ordinances are adopted.	
5E	Procedures for Implementation of Structural BMPs	DPW, Engineering	Prepare final procedures.	Proposed procedures for implementation are to be included in the completed Ordinance.	Continue to update list of approved and recommended management practices to reflect current research and the on-going evolution of stormwater technology.
	Revision			Delayed until Ordinances are adopted.	

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	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 2007/2008 permit year.	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.	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.	Pamphlet was mailed to residents.	Continue to mail pamphlet to City residents.
1D	Bilingual Education Information	DPW, High School translator	Translate recycling pamphlet into Spanish and make available in DPW office	Need to add note to English version indicating that Spanish version is available.	Make alternate language versions available as needed.
1E	Arbor Day Celebration	DPW, Tree Warden	One talk will be given to one school per year.	Included stormwater information in an event related to Arbor Day or Earth Day.	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.
1H	"Do not feed the Geese" Signs	DPW, Board of Health	Design and install one sign at Wright's Pond.	Signs delayed until Ordinances and fines are instituted.	Publicize ordinance, fines, and post signs.
1I	"No Littering" signs	DPW, Parks	Design and Install "No Littering" signs in Permit	Signs delayed until Ordinances and fines are instituted.	Finalize and implement ordinances, fines, and signs.

1. Public Education and Outreach (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activities for Subsequent Years
1J	"No Household Trash" signs	DPW, Parks	Install City owned barrels that read "No household Trash"	Barrels with signs delayed until Ordinances and fines are instituted.	Finalize and implement ordinances, fines, and signs.
1K	Geese Dropping Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3, and 5.	Article will run in the Medford Transcript during April 2008.	Place article in the paper about geese droppings with information on fines
1L	Pet Waste Article in Newspaper	DPW, Environmental Agent	Place one article in the paper Years 1, 3 and 4	None required.	Publish another article when fines and ordinances take effect.
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.	Play stormwater video on Public Access channel once per year.
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.	Publication of fines delayed until Ordinances and fines are instituted.	Determine what the final fines will be and structure for enforcement. When finalized, fines will be published in the paper.
1P	Educate Local Businesses	DPW, Environmental Agent	Distribute flyers to 75% of businesses in the third year.	None required.	Provide educational materials to City businesses and invite them to annual meeting.
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 and for local events.	Continue to provide stormwater information at City Hall and for local events.

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	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 per month, May through 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. Medford uses the Minuteman Hazardous Household Products Facility in Lexington, MA to collect these materials	Continue to advertise this service.
2C	Curbside recycling	DPW, Recycling	DPW to pick up recyclables once every two weeks year-round.	DPW contractor 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 (see Part V).	Continue to provide this service.
2G	Mystic River Cleanup	Mystic River Watershed Association, DPW	DPW to collect trash volunteers pick up at the Mystic River Clean up Day.	Provide cleanup and disposal services for Mystic River Watershed Events.	Continue to provide cleanup and disposal services for volunteer cleanup events.
2H	Public Meetings/Notification	DPW	Hold one public meeting to present stormwater program progress.	DPW held a public meeting on December 12, 2007.	Hold an annual public meeting in subsequent years.

2. Public Involvement and Participation (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activities for Subsequent Years
2I	Stormwater Contact to receive and address public complaints or concerns	DPW	Establish a Stormwater Contact	Stormwater contact identified at public meetings, in newspaper, and on website: Patricia Barry, Energy and Environment Dept., (781) 293-2137.	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	Earth Day newspaper article includes stormwater tips. Earth Day events in 2007 included a presentation to a Brooks School 2nd grade class, using Robyn Squire's "Earth Care Educational Activity Book." The Energy & Environment Agent also gave a presentation at the Earth Day Festival that was held on April 25, 2007 That presentation included discussion of stormwater topics.	Continue to include stormwater activity/information at Earth Day and Clean Energy Events organized by the City. Upcoming "River Day" event to be held in conjunction with Mystic River Watershed Association will feature stormwater-related acitivies.

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activities for Subsequent Years
3A	Fines for Illegal Dumping	DPW	Establish fines for illegal dumping.	Proposed fines for illegal dumping have been reviewed. They are awaiting approval as part of the entire Ordinance development process.	Finalize fines for illegal dumping. Publicize with general ordinance information as revisions to existing ordinances.
	Revision			Delayed until Ordinances are adopted.	
3B	Enforcement of Fines for Littering and Pet Waste	Police	More stringent enforcement of Fines for Littering and Pet Waste	Fines are proposed but aggressive enforcement is delayed until Ordinances are finalized.	Finalize and publicize fees and then implement stringent enforcement program with Police.
	Revision			Delayed until Ordinances are adopted.	
3C	Expand storm sewer map to include all outfalls.	DPW, Engineering	Finish mapping by Year 5.	Mapping is nearly complete; in 2007 only 2 outfalls were found that were not in the database.	Continue with outfall mapping and update maps as development occurs.
3D	Illicit Discharge Ordinance	DPW, Engineering, Building, Law	Float new Ordinance, one year of comment period, continue education.	Draft circulated for review and comment.	Attempt to pass Ordinance, continue comment period and educate more if necessary.
3E	Detection and Elimination Plan	DPW, Engineering	Trace the Source of the Illicit Discharges.	VHB is engaged in a 3-year on-call contract to locate and eliminate illicit discharges. Investigations are ongoing. See Appendix B.	Continue identifying and tracing problems and begin removing sources of illicit discharges.
3F	Illicit Discharge Education for Public	DPW, Engineering	Included in Measure 1	Included in Measure 1	
3G	Illicit Discharge Education for Municipal Employees	DPW	Included in Measure 6	Included in Measure 6	

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	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.	Comments on Draft Ordinance reviewed; entering second round of drafts.	Attempt to pass ordinance, continue comment period and educate more if necessary.
	Revision			Delayed until Ordinances are adopted.	
4B	Erosion and Sediment Control BMPs/ Requirements	DPW, Engineering, Building, Legal	Prepare Draft requirements to be referenced or incorporated into the Construction Ordinance.	Draft BMP criteria are defined and/or referenced in the Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	
4C	Construction Site Plan Review Procedures	DPW, Engineering, Building, Legal	Prepare draft Construction Site Plan Review Procedure to be included or referenced Ordinance.	Draft Construction Site Plan Review Procedures are included or referenced in the completed Draft Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	
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.	Draft Site Inspection and Enforcement Procedures are included or referenced in Draft Construction Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	

4. Construction Site Stormwater Runoff Control (continued)

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	Planned Activities for Subsequent Years
4E	Stormwater Contact to receive and address public complaints or concerns	DPW	Expand publicity regarding stormwater contact (paper, etc.)	Stormwater contact established, (Patricia Barry, 781-293-2137) identified at public meetings, on website, and in articles that were published in the Medford newspaper.	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.	Erosion and Sediment Controls and Post-Development requirements, are included in the Draft Ordinance; comments reviewed.	Prepare Final Requirements as part of ordinance.
	Revision			Delayed until Ordinances are adopted.	

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	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	Continued discussions on current better site design practices and evaluated more material for expanding practices through conservation commission, building dept. and Stormwater Ordinance.	Expand material City offers relative to better site design. Discuss incorporating information to be provided in updated Massachusetts Stormwater Management Policy into site plan review process and Stormwater Manual.
5B	Post-Construction Runoff Ordinance	DPW, Engineering, Building, Law	Float new ordinance, one year of comment period, continue education.	Distributed Draft Ordinance for one year review and comment period.	Attempt to pass ordinance, continue comment period and educate more if necessary.
	Revision			Delayed until Ordinances are adopted.	
5C	Choose Structural and Non-Structural BMPs	DPW, Engineering	Prepare final procedures.	Proposed requirements are to be included in the construction guidelines material to be developed after ordinances are approved.	None.
	Revision			Delayed until Ordinances are adopted.	
5E	Procedures for Implementation of Structural BMPs	DPW, Engineering	Prepare final procedures.	Proposed procedures for implementation are to be included in the completed Ordinance.	None.
	Revision			Delayed until Ordinances are adopted.	

6. Pollution Prevention & Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) Permit Year 5	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 Part V).	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 was restarted in April 2007. 2500 catchbasins cleaned to date. See Appendix C for cleaning logs.	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.	DPW-wide employee training was held on December 12, 2007. Sign-in sheet included in Appendix C.	Continue performing stormwater training in conjunction with implementation of new ordinances.
6E	Municipal O&M	DPW, Highway, Parks, Engineering	Develop Draft BMPs for Pollution Source Reduction/Elimination from Municipal Activities including waste disposal procedures.	Investigation of roof system to cover existing salt storage required additional engineering; design of alternative facility is underway.	Cover salt pile.
6H	Geese Maintenance Contract	DPW, Engineering	Reduce permanent geese populations near water bodies.	Parks Department continued contracting for geese management services.	Continue discouraging geese; evaluate effectiveness of program.

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 given below, with additional documentation provided in Appendix C.

The City collected 2992 cubic yards of leaves in the fall of 2007. The City mulched approximately 2452 cubic yards of leaves and had 540 cubic yards hauled out by A. Vanaria and Sons.

Waste Management collected 638.75 tons of yard waste during Permit Year Five.

2,500 catch basins were cleaned during Permit Year 5.

City forces repaired or replaced 51 catch basins and 15 drain manholes during Permit Year 5.

Part V. Program Outputs & Accomplishments

Programmatic

Stormwater management position created/staffed	(y/n)	No
Annual program budget/expenditures	($)	697,000 (est.)

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	Not Known
Stormwater management committee established	(y/n)	Yes
Stream teams established or supported	(# or y/n)	No
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	None — no event this year
Household Hazardous Waste Collection Days		
days sponsored (Paint Shed only, other HHW collected in Lexington)	(#)	7
community participation	(#)	403 residents
material collected (latex and oil-based paint)	(tons or gal)	25 flex bins
School curricula implemented	(y/n)	No

Legal/Regulatory

	In Place before Phase II	Under Review	Drafted	Adopted
Regulatory Mechanism Status (indicate with "X")				
Illicit Discharge Detection & Elimination			X	
Erosion & Sediment Control			X	
Post-Development Stormwater Management			X	
Accompanying Regulation Status (indicate with "X")				
Illicit Discharge Detection & Elimination			X	
Erosion & Sediment Control			X	
Post-Development Stormwater Management			X	

Mapping and Illicit Discharges

Outfall mapping complete	(%)	90%
Estimated or actual number of outfalls	(#)	100*
System-Wide mapping complete	(%)	90%
Mapping method(s)		
Paper/Mylar	(%)	100%
CADD	(%)	20% (estimate)
GIS	(%)	20% (estimate)
Outfalls inspected/screened	(# or %)	98%
Illicit discharges identified	(#)	1
Illicit connections removed	(#) (est. gpd)	1
% of population on sewer	(%)	>99%
% of population on septic systems	(%)	<1%

* This number will be reduced through the ongoing identification of State DOT and Department of Conservation & Recreation (DCR) outfalls.

Construction

Number of construction starts (>1-acre)	(#)	Not available at this time. Most building permits are for renovation or redevelopment of existing structures.
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 completed	(# or %)	----
Estimated volume of stormwater recharged	(gpy)	----

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
Total number of structures cleaned	(#)	2500
Storm drain cleaned	(LF or mi.)	----
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		
Cost of screenings disposal	($)	
Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	2
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	~52
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Compost, beneficial use
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	0
Vacuum street sweepers specified in contracts	(y/n)	N

Reduction in application on public land of: ("N/A" = never used; "100%" = elimination)		
Fertilizers	(lbs. or %)	90%
Herbicides	(lbs. or %)	100%
Pesticides	(lbs. or %)	90%

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	Varies by storm requirements
Pre-wetting techniques utilized	(y/n)	No
Manual control spreaders used	(y/n)	Yes
Automatic or Zero-velocity spreaders used	(y/n)	No
Estimated net reduction in typical year salt application	(lbs. or %)	0
Salt pile(s) covered in storage shed(s)	(y/n)	In process
Storage shed(s) in design or under construction	(y/n)	Yes

Figure 1

Field-Verified Outfall Map