TOWN OF ANDOVER, MASSACHUSETTS

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DEPARTMENT OF PUBLIC WORKS
WATER TREATMENT PLANT
397 LOWELL STREET 01810-4416

April 30, 2008

Ms. Ann Herrick (CIP)
U. S. Environmental Protection Agency
One Congress Street, Suite 1100
Boston, MA 02114

Re: NPDES Stormwater General Permit
2007-2008 Annual Report
Town of Andover, MA

To Whom It May Concern:

Enclosed for your records is the NPDES Stormwater General Permit 2007-2008 Annual Report for the Town of Andover, MA. The Annual Report has simultaneously been filed with the Massachusetts DEP.

If you have any questions or require any additional information, please do not hesitate to call me at 978-623-8350 ext. 520 or our Consultant, Rebecca Balke with Comprehensive Environmental Inc. at (800)725-2550 ext. 308.

Sincerely,

Town of Andover, Massachusetts

Brian Moore

Brian Moore, P.E.
Town Engineer

cc: Massachusetts Department of Environmental Protection, Worcester Office
Rebecca Balke, Comprehensive Environmental Inc.

Enclosure – NPDES Phase II Small MS4 General Permit 2007-2008 Annual Report

Printed on 100% Recycled Paper with 30% Post Consumer Waste.

Municipality/Organization: Town of Andover

EPA NPDES Permit Number: MAR041178

MaDEP Transmittal Number: W- 041021

Annual Report Number
& Reporting Period: No. 5: May 1, 2007-April 30, 2008

5/1/8
P

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Reginald Stapczynski Title: Town Manager

Telephone #: (978) 623-8225 Email: rstapczynski@andoverma.gov

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: Reginald S. Stapczynski

Printed Name: Reginald Stapczynski

Title: Town Manager

Date: 4/30/08

Part II. Self-Assessment

The Town of Andover has completed the required self-assessment of the annual compliance review for the Phase II Stormwater Program. In accordance with the NPDES Phase II Stormwater requirements, the following topics were evaluated for the completion of the Annual Report:

1. Compliance with the Phase II Permit Conditions
2. Appropriateness of the Selected BMPs
3. Progress Towards Achieving the Program's Measurable Goals
4. Results of Any Information that has been Collected and Analyzed
5. Activities for the Next Reporting Cycle
6. Changes in Identified BMPs or Measurable Goals

The Town has determined that our municipality is in compliance with all permit conditions.

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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
1A	Develop Stormwater Section of Town Website	Dept. of Public Works/Engineering Dept., Water Dept, and Town Website Manager(s)	Measure number of hits over permit term.	A link to the stormwater education webpage "Water Well-being" was added to the website. There were 2,995 visitors to the stormwater section of the Town website.	Measure hits to the website. Add a link to the published paper from the GSA Journal entitled "Salinization of Water Supply Aquifers: A Case Study of Fish Brook Catchment Basin"
Revised					
1B	Distribute Brochures and Fact Sheets to Businesses and Residents	Department of Public Works/Engineering Dept., and Water Dept.	Number of articles and copies of materials.	The Town mailed 10,400 copies of Consumer Confidence Report that contained a page on stormwater facts to residents and businesses. A section on Stormwater Management was included in "Recycling and Trash Collection Guide for Residents" which was mailed to 11,000 residents in June 2007. A Press Release and advertisements on Greenscapes was submitted to the Andover Townsman and Eagle Tribune, and an advertisement on Greenscapes was also published in the DCS catalog, distributed town wide.	Continue mailings.
Revised					
1C	Submit Advertisements/Articles on Stormwater Protection for Local Newspaper	Department of Public Works/Engineering Dept., and Water Dept.	Clippings of articles and advertisements printed in local newspaper.	An article announcing the participation in Greenscapes Program, workshops, and other information was published in the Town newspaper in May 2007. In March 2008, an advertisement with illustration was published in the local paper informing residents of ways they can control stormwater pollution.	Continue to inform residents of upcoming activities under the participation and involvement program. Use information from brochures and fact sheets for articles and direct the public to the stormwater section of the Town website.
Revised					

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
2A	Establish a Pesticide Reduction Task Force (PRTF)	Committee of Town Staff, League of Women Voters, and Residents	Copies of mailers, meeting minutes, list of attendees.	The Health Division has participated in public outreach programs at the Fire Station (10/13/07), Andover Days (9/29/07), and during Public Health Week displays (4/7/08 – 4/11/08). The Pesticide Use Policy is also posted on the Health Division Website	Continue holding meetings/workshops and encouraging new residents and business owners to attend.
Revised					
2B	Establish a Stormwater Telephone Hotline	Department of Public Works/Engineering Dept, Water Dept., and Town Website Manager(s)	Record number of phone calls to hotline, copies of articles.	Due to inadequate funding to staff a stormwater telephone hotline, the Town posted a Directory on the Town website that summarizes the areas each of the Town Departments handles. This will allow phone calls to be directed to the appropriate department to be addressed.	Log phone calls and address complaints/concerns.
Revised	Establish a Procedure to Receive Calls		Record number of calls to each Department		
2C	Establish Classroom Education/Field Trip Program	Department of Public Works/Engineering Dept. Water Dept., and Education Department	Field Trip Curriculum, # of field trips organized each year.	Educational tours of the Water Treatment Plant are given year round and stormwater issues are incorporated. AP Environmental Science Students and college classes also attended tours of the WTP, these tours occurred 3 times during the permit year.	Continue to visit classrooms and hold annual field trips for science classes to visit the Town's water treatment plant. Encourage class projects and activities related to stormwater issues.
Revised					
2D	Install Storm Drain Markers or Stencils	Department of Public Works/Engineering Dept, Water Dept., and Volunteers	50% of storm drains marked by year 5 with door hangers placed in associated neighborhoods.	Storm drain markers were installed at 636 catchbasins in the upper reach of Fish Brook and also in other high priority watershed. About 50% of catchbasins have been marked to date. Door hangers were also installed in these neighborhoods.	Continue marking storm drains and providing door hangers in the highest priority watersheds.
Revised					

2E	Work With Watershed Organizations to Incorporate Stormwater Information into Their Programs	Department of Public Works/Engineering Dept, Water Dept., and Conservation Commission	Document quarterly meeting topics. Agenda, meeting notes, and attendance sheets.	• The Fish Brook Watershed Advisory Committee (FBWAC) meets monthly to oversee protection of Fish Brook Priority sub basin. They also discuss and mitigate stormwater and other watershed initiatives. • The Town participated in the West Parish Church Environmental Fair on Sept. 9, 2007, including Greenscapes presentation and information. • The Town participated as a sponsor community for the 2007 Greenscapes program. The program included a 20-page mailing to all residents, and workshops. • The Conservation Director has partnered with the Shawsheen River Watershed Assoc. to locate potential sedimentation outfalls on the Shawsheen River.	Continue working with local watershed groups and residents to discuss stormwater concerns.
Revised					

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
3A	Develop Primary Town Storm Drain System Map	Department of Public Works/Engineering Dept., Consultant	90% of system mapped on GIS.	90% of the drainage system was mapped during permit year 1 using existing plans.	No further activity is required for this task.
Revised					
3B	Complete Storm Drain System Map	Department of Public Works/Engineering Dept., Consultant	Outfalls map completed.	Continued to locate and verify storm system outfalls. Continued to locate and field verify unknown drainage areas.	Continue searching for the remaining 50 outfalls to confirm their location on the storm drain amp. The system map will be

Revised				Added outfall information to existing GIS base map. The locations of 177 newly found outfalls in unknown areas were entered into the GIS drainage map. All but 50 outfalls have been field verified. These 50 could not be located in the field.	updated accordingly as new drainage systems are constructed in new developments.
3C	Develop Illicit Discharge Prohibition Ordinance	Planning Board, Board of Health, and Selectmen	Obtain authorization to control inputs to the municipal drainage system.	Illicit Discharge Rules and Regulations were adopted by the Board of Health on July 9, 2007.	Completed.
Revised					
3D	Develop Illicit Discharge Detection and Elimination Plan and Implement Activities	Department of Public Works/Engineering Dept., Water Dept., Board of Health, and Consultant	All outfalls examined. Sources traced and results documented within one year of discovery.	IDDE plan was established in permit year 1. 322 outfalls have been located and inspected in High-Moderate and Moderate priority subbasins during this permit term (Year 5). 25 were found flowing, 23 have been sampled, 2 locations were found to have possible illicit discharges. Approx. 50 outfalls remain which are unable to be located. Video inspections of areas identified through sampling as potential illicit discharges were performed in Dec. 2007 to locate existing connections to existing drain pipes. 19 connections were found, letters were sent to the homeowners to request access to perform dye testing. 8 homes have been tested, 1 was found to have sewer connected to the drain and a letter has been sent to the owner to correct the problem. 2 sewer underdrains were found to connect to the drainage system, these have both been removed. Seven others have not shown any further bacteria counts. 3 locations still remain for source to be found.	Continue conducting outfall inspections to find the remaining 50 outfalls and looking for signs of illicit discharges in priority subwatersheds. Seek sources of discovered illicit discharges one by one and work towards elimination. Continue to contact the other 11 homes through mailings until a response is received, and contact Health Dept. if enforcement is required. Continue to monitor the seven other outfalls to determine if an illicit discharge still exists.
Revised					

3E	Incorporate Information on Illicit Discharges into Public Education and Outreach Topics	Department of Public Works/ Engineering Dept., Water Dept., and Board of Health	Copies of materials.	Information on illicit discharges and links to other informational sites have been provided on the Town website.	Continue incorporating information on illicit discharge into public education and outreach topics.
Revised					
3F	Setup and Advertise a Hotline for Illicit Discharges	Department of Public Works/ Engineering Dept., and Board of Health	Log of complaints and actions taken.	A log is being used by the various departments to record complaints and follow-up actions. (Also see BMP 2B)	Continue to log complaints and actions taken.
Revised	Establish a Procedure to Receive Calls				

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
4A	Develop Erosion Control Bylaw	Planning Board and Selectmen	Bylaw at Town meeting by year 3.	A Stormwater Management & Erosion Control Bylaw has been submitted to the Planning Board for adoption at the 2008 Annual Town Meeting. As part of the proposed Rules and Regulations amendments, the Town has updated the section on Sedimentation and Erosion Control to keep design criteria consistent.	Adoption of the Bylaw is anticipated at the Annual Town Meeting in 2008, normally the beginning of May. Upon the Planning Board's adoption of the Rules and Regulations (anticipated 12/08) the design criteria as drafted in the Bylaw and the Rules and Regulations will be consistent.
Revised					
4B	Establish a Procedure for the Receipt of Information Submitted by the Public	Planning Board and Department of Public Works/ Engineering Dept.	Record number of phone calls, copies of articles.	A log is being used by the various departments to record complaints and follow-up actions. (Also see BMPs 2B & 3F)	Continue to log complaints and actions taken.
Revised					

4C	Develop Guidance for Erosion Controls & Conduct Inspections	Planning Board, Department of Public Works/ Engineering Dept., Conservation Commission, and Consultant	Inspection checklist and documented inspections.	The Town currently requires applicants to submit a brief summary of temporary and permanent erosion controls. The Draft Stormwater Management & Erosion Control Regulations provide specific guidelines of erosion controls which need to be in place, and require regular inspection of control measures. All projects must include a plan showing sedimentation controls and be approved by Andover Conservation. Plan must be recorded at the Registry of Deeds. The Adoption of the Stormwater Management & Erosion Control Bylaw is anticipated at the 2008 Annual Town Meeting.	Upon adoption of the Bylaw at the 2008 Annual Town Meeting additional outreach and public hearings are required for adoption of the associated regulations.
Revised					

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 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
5A	Develop BMP Bylaws	Planning Board	Bylaw at Town meeting by year 3.	A Stormwater Management & Erosion Control Bylaw has been submitted to the Planning Board for adoption at the 2008 Annual Town Meeting.	Adoption of the Bylaw is anticipated at the Annual Town Meeting in 2008, normally the beginning of May.
Revised					
5B	Develop and Implement Inspection Program	Planning Board, Department of Public Works/ Engineering Dept., Conservation Commission, Selectmen and Consultant	Copies of maintenance reports received annually, plus records of inspections completed and results.	For every Homeowners' Association documented by the Planning Division a comprehensive file has been put together to track the inspections and maintenance of Homeowners' Associations. Post construction areas must conform with conservation standards for storm water control	Follow-up meetings and reminder letters to the Homeowners' Associations will be necessary on a yearly basis to ensure that the drainage areas are being inspected and maintained and Operation and Maintenance Plans are being followed.

Revised				before a Certificate of Compliance is issued. Non complying sites may be subject to enforcement. Recent enforcement has resulted in the planned installation of an $800,000 sedimentation control at a river side parking lot.	
5C	Develop BMP Design Standards	Planning Board, Department of Public Works/ Engineering Dept., Conservation Commission, and Consultant	Copy of draft bylaws.	Design standards have been worked into regulations that accompany the Stormwater Management & Erosion Control Bylaw. These have been submitted to the Planning Board for adoption at the 2008 Annual Town Meeting.	Adoption of the Bylaw is anticipated at the Annual Town Meeting in 2008, normally the beginning of May.
Revised				Presently BMPs for runoff and sedimentation control are required in areas under the Conservation's jurisdiction. The Commission continue to follow the Stormwater Management Handbook.	

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
6A	Sweep Streets in Town	Department of Public Works/Highway Division	Priority plan of sweeping based on water quality impact.	All streets are swept in Town at least annually. Most streets are swept more than once.	Continue street sweeping program.
Revised					
6B	Clean Catch Basins	Department of Public Works/Highway Division and Consultant	Records of cleaning, inspections and maintenance.	No catch basins were cleaned during this year. Not enough money was available to hire a private contractor and only one truck was available for activity. A request has been made for	Continue to clean all catch basins in Town at least once every two years and modify cleaning frequency as needed.

Revised				additional resources. The catch basin cleaning schedule was revised, some are scheduled to get cleaned more often.	
6C	Develop and Implement an Inspection and Maintenance Plan	Department of Public Works/Highway Division, Plant and Facilities Dept., Water/Sewer Dept.	Written policy. Records of inspections and maintenance.	The Engineering Dept. has compiled an inventory of Town owned BMPs and distributed copies to the responsible depts. The exact maintenance requirements of each BMP are still unknown, but an expert in inspection and maintenance of such BMPs has agreed to develop a proper schedule. Good practice and regulatory requirements will be incorporated into policy. The first BMP has been inspected and a maintenance quote is pending. Inspections/maintenance of catch basins performed when needed.	Complete written inspection/ maintenance schedule for structural BMPs throughout Town, and identify their responsible parties. Continue to perform inspection and maintenance of BMPs and catch basins and modify frequency as necessary. Develop an in-house policy for disposing of maintenance-generated wastes.
Revised					
6D	Berm Sand/Salt Pile and Evaluate Options for Protection	Department of Public Works/ Highway Division	Records of modifications, including photos.	Shed was constructed in permit year 1 to store sand/salt pile from runoff. No further action is needed.	No further action is required.
Revised					
6E	Store Paving Tools and Equipment Indoors	Department of Public Works/Highway Division	Designated indoor storage area. Record of Memo.	All paving tools and equipment are stored indoors in designated areas.	Continue to store all paving tools and equipment indoors.
Revised					
6F	Rinse Marking Paint Buckets to the Sanitary Sewer System and Store Buckets Indoors	Department of Public Works/Highway Division	Designated indoor storage area. Record of Memo.	All marking paint buckets are rinsed to the sanitary sewer system and stored indoors.	Continue to rinse all marking paint buckets to the sanitary sewer system and store indoors.
Revised					
6G	Implement BMPs to Reduce Sediments Entering the Drainage System	Department of Public Works/Highway Division	Records of sweeping and inspection records.	The paved roadway and catch basins at the DPW Yard were frequently swept/cleaned. Catch basins cleaned on a schedule and as needed/able.	Continue to sweep the paved roadway and clean the catch basins at the DPW Yard on a frequent basis.

Revised					
6H	Bring Floor Drain System at the Water/Sewer Building into Compliance	Department of Public Works/Engineering Dept.	As-built sketches.	Floor drain was brought into compliance in permit year 1.	No further action is required.
Revised					
6I	Bring Floor Drain System at the Vehicle Maintenance Building into Compliance	Department of Public Works/Engineering Dept.	As-built sketches.	Floor drain was brought into compliance in permit year 1.	No further action is required.
Revised					
6J	Wash Vehicles in Accordance with DEP Regulations	Department of Public Works/Highway Division	Record of Memo.	Vehicles are washed indoors to floor drains that discharge into an oil/water separator and the sanitary sewer system.	Continue washing vehicles indoors.
Revised					
6K	Implement Stormwater BMPs at the Fueling Station	Plant and Facilities Dept. and Consultant	Repair Records. Better housekeeping for small spills. As-built sketches or plans. Record of memo.	A fully stocked spill kit and disposal containers are maintained onsite to clean up future leaks. Any waste will be disposed of properly.	Continue to keep fully stocked spill kit and disposal container on-site to clean up any future leaks and to dispose of wastes properly.
Revised					
6L	Develop an Inspection and Maintenance Program for the Liquid Calcium Chloride (CaCl) ASTs.	Department of Public Works/Highway Division	Inspection and Maintenance Plan. As-built sketches or action taken. Record of memo.	An inspection and maintenance plan and procedures for handling significant leaks and spills were completed in permit year 2.	Continue program.
Revised					
6M	Implement BMPs at the Ledge Road Landfill	Department of Public Works	Complete landfill cap.	The Town has been granted preliminary approval for an SRF loan to complete the cap in one phase. This requires approval at the Annual Town Meeting in spring of 2008, upon approval a contract will be put to bid.	Continue with landfill capping process. Put contract out to bid upon approval at the Annual Town Meeting in 2008.
Revised					

6N	Provide Additional Slope Stabilization at the Snow Dump and Storage Location	Department of Public Works/Engineering Dept. and Highway Division	As-built sketches or plans and photos.	Completed in permit year 1.	No additional work is needed.
Revised					
6O	Ensure Compliance for Floor Drains and Vehicle Washing Activities at the West Fire Station	Plant and Facilities Dept. and Fire Dept.	Sketches or inspection memos. Record of memo.	Continued washing vehicles indoors.	Continue to prohibit outdoor vehicle washing and wash vehicles indoors.
Revised					
6P	Ensure Compliance for Floor Drains and Vehicle Washing Activities at the Ballardvale Fire Station	Plant and Facilities Dept. and Fire Dept.	Sketches or inspection memos. Record of memo.	Continued washing vehicles indoors.	Continue to prohibit outdoor vehicle washing and wash vehicles indoors.
Revised					
6Q	Wash Vehicles at the Approved Vehicle Wash Area at the Police Station (Public Safety Building)	Plant and Facilities Dept. and Police Dept.	Record of memo.	Continued washing vehicles at approved wash areas. Outdoor vehicle washing is prohibited.	Continue to wash all vehicles indoors at approved vehicle wash areas.
Revised					
6R	Prohibit Vehicle Washing at the Cemetery Buildings	Plant and Facilities Dept. and Fire Dept.	Record of memo.	Continued washing vehicles at approved wash areas. Vehicle washing at the Cemetery Buildings is prohibited.	Continue washing vehicles at approved sites.
Revised					
6S	Rinse Marking Paint Buckets to the Sanitary Sewer System at the Park Shop	Plant and Facilities Dept. and School Dept.	Record of memo.	Continued rinsing all marking paint buckets to the sanitary sewer system.	Continue rinsing all marking paint buckets to the sanitary sewer system.
Revised					

6T	Ensure Compliance with SPCC Plans for the West, Shawsheen, and Bancroft Elementary Schools	Plant and Facilities Dept. and School Dept.	Record of inspections and activities in accordance with the plan.	Continued inspecting facilities in accordance with the SPCC Plans.	Continue inspecting facilities in accordance with the SPCC Plans.
Revised					
6U	Use IPM Program for Application of Pesticides in Town	Plant and Facilities Dept.	Copy of "Chapter 85 of the Acts of 2000".	Continued Integrated Pest Management (IPM) Program for application of pesticides (herbicides and insecticides) and fertilizers on Town-owned lands. Abided by the rules contained in Commonwealth of Massachusetts Chapter 85 of the Acts of 2000 (an act protecting children and families from harmful pesticides). Mosquito Control Plan will follow IPM Program.	Continue Integrated Pest Management (IPM) Program
Revised					
6V	Use Licensed Applicators for Fertilizers and Pesticides in Town	Plant and Facilities Dept	Record quantities of fertilizers and pesticides purchased annually.	Continued to use licensed applicators to apply fertilizers and pesticides in Town.	Continue to use licensed applicators to apply fertilizers and pesticides in Town.
Revised					
6W	Store Road Salt Under Cover and Clean Loading Area	Department of Public Works/Highway Division	Minimize stormwater contact with salt.	Stored all road salt materials under cover at the DPW Facilities Plant and Yard and cleaned loading area as needed.	Continue to store all road salt materials under cover at the DPW Facilities Plant and Yard and clean loading area as needed.
Revised					
6X	Use Low Salt Applications at Designated Areas	Department of Public Works/Highway Division	Use less salt within the Haggets Pond watershed, as demonstrated with application rate.	Regulate and use low salt applications in the Haggetts Pond watershed for water supply protection. Established "Reduced Salt Zone" on Interstates I-495 and I-93 through Mass Highway	Continue to use low salt applications in the Haggetts Pond watershed for water supply protection.

Revised				in the Fish Brook and Haggets Pond watersheds. Fish Brook watershed committee raised $50K thru Town article to help mitigate stormwater damage caused by road salting practices. 7 microwells installed around the drinking water reservoir to monitor deicing contaminants. Installed monitoring station to trend stormwater runoff quality of water draining to Fish Brook.	
6Y	Ensure Proper Waste Disposal in Town for Hazardous and Special Wastes	Department of Public Works and Consultant	Document quantity of wastes collected annually.	Hazardous household wastes and electronics waste were collected at drop-off events. • Household hazardous waste collection event was held on 5/12/07 – 5.95 tons collected. • Three collection events for cathode ray tubes (CRTs), batteries, and electronic equipment were held on 5/19, 6/16, and 9/29 – 74 tons collected.	Continue to ensure proper waste disposal in Town for hazardous and special wastes as conducted in the past.
Revised					
6Z	Ensure Compliance for Snow Disposal in Town	Department of Public Works/Highway Division	Utilize designated snow disposal location.	Continued existing practices for snow disposal activities in Town to ensure surface water quality protection.	Continue existing practices for snow disposal activities in Town to ensure surface water quality protection.
Revised					
6AA	Conduct Town Employee Stormwater Training	Town Manager, Department of Public Works, Plant and Facilities Dept., Police and Fire Dept. and Consultant	Attendance sheet and copy of program.	Refresher training for Plant & Facilities and Dept. of Public Works employees was conducted in-house in April 2008.	Conduct annual refresher training.
Revised					

7. BMPs for Meeting Total Maximum Daily Load (TMDL) Waste Load Allocations (WLA) *<<if applicable>>*

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Next Permit Term
7A	Develop a Water Quality Strategy for 303d Waters	Town Engineer & Consultant	Summary of pollution prevention efforts, future needs, and responsible parties. Copy of surface water quality strategic plan.	We have obtained copies of the TMDLs and an updated list of impaired waters for review.	The Town will review existing TMDLs and impaired waters and develop an implementation plan for meeting the TMDLs.
Revised					
7B	Implement BMPs from Water Quality Strategy	Town Engineer, Consultant, & Town Departments (to be determined)	Photographs, logs, and BMP descriptions for completed efforts and water quality improvements.	Progress on this BMP will follow the progress made on BMP ID #7A.	Progress on this BMP will follow the progress made on BMP ID #7A.
Revised					

7b. WLA Assessment

Andover is in the process of reviewing TMDLs and waste load allocations and developing an implementation plan to meet them. The components of Andover's Phase II Stormwater Management Plan are already working to minimize pollution into impaired waters and this program will be supplemented as needed and within the Town's available resources to improve the water quality of impaired waters.

Part IV. Summary of Information Collected and Analyzed

Locations and physical descriptions of about 322 outfalls have been gathered since Permit Year 1. Copies of all educational materials and memos distributed have been kept on file. Meeting memos and phone logs have also been kept on file.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	**No**
Annual program budget/expenditures	($)	**$45,000**

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	**95%**
Stormwater management committee established	(y/n)	**n**
Stream teams established or supported	(# or y/n)	
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	
Household Hazardous Waste Collection Days (including collection events for cathode ray tubes (CRTs), batteries, and electronic equipment)		
▪ days sponsored	(#)	**4**
▪ community participation	(%)	
▪ material collected	(tons or gal)	**80 tons**
School curricula implemented	(y/n)	**Yes**

Legal/Regulatory

	In Place Prior to 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	(%)	**95%**
Estimated or actual number of outfalls	(#)	**965**
System-Wide mapping complete	(%)	**99%**
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	
Outfalls inspected/screened	(# or %)	**915**
Illicit discharges identified	(#)	**5 since Permit Year 1**
Illicit connections removed	(#) (est. gpd)	**4 since Permit Year 1 – Other notified to comply this year**
% of population on sewer	(%)	**55%**
% of population on septic systems	(%)	**45%**

Construction

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 completed	(# or %)	
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	**Once every 2 years**
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	**Once every 2 years**
Total number of structures cleaned	(#)	**2447**
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)	**1/year**
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	**1/year**
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	
Vacuum street sweepers specified in contracts	(y/n)	

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

Anti-/De-Icing products and ratios	% NaCl % $CaCl_2$ % $MgCl_2$ % CMA % Kac % KCl % Sand	
Pre-wetting techniques utilized	(y/n)	
Manual control spreaders used	(y/n)	
Automatic or Zero-velocity spreaders used	(y/n)	
Estimated net reduction in typical year salt application	(lbs. or %)	
Salt pile(s) covered in storage shed(s)	(y/n)	**Yes**
Storage shed(s) in design or under construction	(y/n)	