Municipality/Organization: Town of Andover

EPA NPDES Permit Number: MAR041178

MaDEP Transmittal Number: W- 041021

Annual Report Number
& Reporting Period: No. 4: May 1, 2006-April 30, 2007

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Reginald Stapczynski Title: Town Manager

Telephone #: (978)623-8350 Email:

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: 4/27/07

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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
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 presentation "Impacts of Stormwater" was added to the website. There were 1210 visitors to the stormwater section of the Town website.	Measure hits to the website.
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 10,300 copies of Consumer Confidence Report that contained a page on stormwater facts to residents and businesses; an additional 400 copies were distributed to the public in Town meetings and Town buildings. A brochure entitled "Beautiful Lawns" was distributed at public information forums to encourage organic lawn practices. A "Pesticide Free Lawn Care" presentation was given as part of Public Health Week (4/4/2007). The Stormwater PowerPoint presentation entitled "Impacts of Stormwater" was given to a local citizens group in June 2006. In Summer 2006 Town Officials and Municipal Staff conducted a public presentation describing problems related to Stormwater contaminants, and possible solutions.	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 summarizing the 2-year study of Fish Brook, a priority basin, was published in the Town newspaper in May 2006. An article was published in the local paper notifying the public of the proposed Stormwater Management Bylaw to be voted on at the upcoming annual Town Meeting.	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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
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.	Free lawn signs were distributed to citizens to participate in "Pesticide Free" lawn care practices. A brochure entitled "Beautiful Lawns" was distributed at public information forums to encourage organic lawn practices. A "Pesticide Free Lawn Care" presentation was given as part of Public Health Week (4/4/2007).	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 is preparing an organization chart 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.	The organization chart will be developed.
Revised	*Establish a Procedure to Receive Calls*	Same as Above	Same as Above		

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.	Classroom field trips to the Andover Water Treatment Plant were conducted at various times during the 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.	Thirty catch basins in the highest priority sub-basins were marked with stencils.	Continue marking storm drains 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.	• The Town Manager appointed Fish Brook Watershed Advisory Committee (FBWAC) to oversee protection of Fish Brook Priority sub basin. • Volunteer citizen water quality monitoring was performed at 6 sites within the Fish Brook subbasin. • Town contacted Greenscapes North Shore Coalition to become a sponsor community, this will assist in broadening public outreach. • Watershed Canoe group reports illicit discharges to the ConCom Director who then takes enforcement actions.	Continue working with local watershed groups and residents to discuss stormwater concerns.
Revised			Agenda, meeting notes, and attendance sheets.		

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
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	All outfalls mapped by year 4. Copy of storm drain map.	• Continued to locate and verify storm system outfalls. • Continued to locate and field verify unknown drainage areas. • Added outfall information to existing GIS base map. • The locations of 139 outfalls were entered into the GIS drainage map including 7 newly found outfalls in unknown areas.	Continue verifying the location of the drainage system as mapped under 3A and incorporate changes as needed. Look into hiring additional staff or outsourcing work to complete.
Revised			All outfalls mapped by year 5.		
3C	Develop Illicit Discharge Prohibition Ordinance	Planning Board, Board of Health, and Selectmen	Obtain authorization to control inputs to the municipal drainage system. Bylaw at Town meeting by year 3.	Draft Illicit Discharge Rules and Regulations have been completed and are awaiting the May 2007 public hearing for adoption under the Board of Health Regulations.	Adoption of the Rules and Regulations are expected around June 2007.
Revised			Bylaw at Town meeting by Year 4.		

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 by year 4. Sources traced and results documented within one year of discovery.	• IDDE plan was established in permit year 1. During ongoing outfall inspections, out of 139 inspected in this permit term, 44 dry weather flows were observed. 12 of the flows appear to be illicit discharges based on laboratory data and will be further investigated. • High coliform bacteria counts were found in a catch basin on Holt Road, the suspected home was contacted and a sewer connection was made from the home per order of the Health Dept	Continue conducting outfall inspections and looking for signs of illicit discharges in priority subwatersheds. Seek sources of discovered illicit discharges one by one and work towards elimination. Look into the services of a camera inspectional service to locate unknown drains and find their sources.
Revised			All outfalls examined by year 5.		
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.	The Fish Brook Initiative Final Report was issued in the Summer of 2006. The Fish Brook Watershed Advisory Committee was appointed to further protect the watershed and implement the recommendations by the Town Manager.	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.	Due to inadequate funding to staff a stormwater telephone hotline, the Town is preparing an organization chart 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. The Illicit Discharge Regulations, which would create and identify required enforcement, will be presented at the May 2007 BOH public hearing.	The organization chart will be developed.
Revised	*Establish a Procedure to Receive Calls*	Same as Above	Same as Above		

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
4A	Develop Erosion Control Bylaw	Planning Board and Selectmen	Bylaw at Town meeting by year 3.	A draft Stormwater Management Bylaw addressing erosion controls and post-construction stormwater controls was developed and reviewed by various Town Departments. The bylaw was scheduled to be voted on at the 2007 Annual Town meeting, but was withdrawn due to unresolved internal conflicts amongst the Town boards.	Upon resolution of internal conflicts regarding the proposed bylaw, it will be be presented at the 2008 Annual Town meeting.
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.	The Conservation Commission presently responds to all inquiries or site inspections within their jurisdiction. The Town's Construction Inspector and the Planning Division monitor sites that lie outside of their jurisdiction. The Town is preparing an organization chart 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.	The organization chart will be developed.
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.	Implementation of erosion controls are typically recommended on a site-specific basis. Currently erosion control plans must be provided in detail on plans and conform to State Stormwater Policy. The Town is looking into the development of an in-house handbook that specifies the construction of various erosion control techniques. This will help promote consistency in the implementation and inspection of techniques used.	A handbook containing erosion control guidance for developers will be prepared along with inspection checklists for use by Town staff. Continue meetings to address staffing that is needed to coordinate and conduct inspections.
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 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
5A	Develop BMP Bylaws	Planning Board	Bylaw at Town meeting by year 3.	A draft Stormwater Management Bylaw addressing erosion controls and post-construction stormwater controls was developed and reviewed by various Town Departments. The bylaw was scheduled to be voted on at the 2007 Annual Town meeting, but was withdrawn due to unresolved internal conflicts amongst the Town boards.	Upon resolution of internal conflicts regarding the proposed bylaw, it will be presented at the 2008 Annual Town meeting.
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.	• Program has been delayed until the Stormwater Management Bylaw is adopted and until additional staff requests are granted. • ConCom has inspected construction projects to verify compliance with State Stormwater standards, as well as the submission of an O&M plan for catch basin clean up. • Outside independent engineers periodically inspected construction projects within areas under the Conservation's jurisdiction. A Certificate of Compliance is provided when construction sites are stabilized. • A BMP inventory spreadsheet has been created to log all new BMPs constructed and file existing BMPs • Letters were sent out to 11 Homeowner's Associations to ensure the O&M Plans of their BMPs are being followed.	The following tasks will be developed after the Stormwater Management Bylaw is adopted: • Specific O&M requirements desired by Andover and referenced in regulations to the new bylaw. • Continue the maintenance tracking program that requires annual submittal of maintenance report by owner. • Department(s)/staff who will perform inspections. • Continue to add to the BMP Inventory spreadsheet.
Revised					

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 Bylaw. These are awaiting adoption once internal conflicts can be resolved. • BMPs for runoff and sedimentation control are required in areas under the Conservation's jurisdiction. The Commission continued to follow the Stormwater Management Policy.	Upon resolution of internal conflicts regarding the proposed bylaw and regulations that reference BMP design standards, it will be be presented at the 2008 Annual Town meeting.
Revised					

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 4 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 5
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. The downtown area was swept twice per week except during the winter.	Continue street sweeping program.
Revised					
6B	Clean Catch Basins	Department of Public Works/Highway Division and Consultant	Records of cleaning, inspections and maintenance.	Approximately 449 catch basins were cleaned. Problem areas were cleaned more often. The catch basin cleaning truck was damaged for a period and the task could not be fully completed. The frequency of cleanings necessary for certain areas is under evaluation.	Continue to clean all catch basins in Town at least once every two years and modify cleaning frequency as needed.
Revised					
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 Town Engineering Staff continues to report maintenance problems to the Highway Department frequency of inspections modified as necessary.	• Complete written inspection/ maintenance schedule for structural BMPs throughout Town. • Continue to perform inspection and maintenance of BMPs and modifying 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 photographs.	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. For a period of time the catch basin cleaning truck was damaged and the schedule could not be kept.	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 discharges 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 Phase I design of a landfill cap was completed and is being reviewed by the DEP. Funding for Phase II of the project is in place and ready to proceed when DEP approves.	Continue with landfill capping process. Construct berms around landfill to keep materials onsite.
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.	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.	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).	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.	Used low salt applications in the Haggetts Pond watershed for water supply protection.	Continue to use low salt applications in the Haggetts Pond watershed for water supply protection.
Revised					
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. • Bi-annual household hazardous waste collection events were held – 16.35 tons collected. • Encouraged residents to bring household mercury- containing thermometers and thermostats to the Water Treatment Plant or the Board of Health. • Held three collection events for cathode ray tubes (CRTs), batteries, and electronic equipment – 75.39 tons collected. • Allowed residents to take waste motor oil to the North Andover DPW Garage on the first and third Saturday of each month. • Advertised events with mailers to every household and emphasized the need to collect wastes to avoid improper disposal and the resulting pollution.	Same as Year 4.
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 April 24. 2007 by a consultant on pollution prevention and good housekeeping practices. Stormwater training was also held town wide.	Conduct 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 4** (Reliance on non-municipal partners indicated, if any)	**Planned Activities – Permit Year 5**
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.	Not planned for Year 4.	Planned for permit year 5.
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.	Not planned for Year 4.	Planned for permit year 5.
Revised					

7b. WLA Assessment

A TMDL was completed for the entire Shawsheen River Basin for pathogens only. The following waterbodies were included in this TMDL and are listed on the 303d list as impaired due to pathogens:

1) Unnamed Tributary (8349105)- Also known as Pinnacle Brook- from a small wetland east of Route 93, Andover to the confluence with Meadow Brook in Tewksbury.
2) Unnamed Tributary (8349030)- Also known as Fosters Brook- from the outlet of Fosters Pond through River Street Pond to the confluence with the Shawsheen River at Lowell Junction Pond in Andover.
3) Rogers Brook from the Outlet of first unnamed pond to the confluence with the Shawsheen River in Andover.
4) Shawsheen River from the confluence with Spring Brook in Bedford to Central Street in Andover.
5) Shawsheen River from Central Street to the confluence with the Merrimack River in Lawrence.

The TMDL Report set a WLA for fecal coliform standard of 200 organisms/100 ml per outfall. The report also points out that outfalls from Roger's Brook will need a 89.5% reduction in coliform to reach the standard of 200 organisms/100ml at each outfall. To meet these standards the Report suggests the following measures, many of which are already included in Andover's Stormwater Management Plan:

1) Implement an illegal connection identification and removal program.
2) Collect additional monitoring data to isolate coliform sources.
3) Implement more intensive "good housekeeping" practices.
4) Asses water quality in response to implementation activities.

Part IV. Summary of Information Collected and Analyzed

Locations and physical descriptions of about 593 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	($)	**$47,822**

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	**95%**
Stormwater management committee established	(y/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		
▪ days sponsored	(#)	**2**
▪ community participation	(%)	
▪ material collected	(tons or gal)	
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	(#)	
System-Wide mapping complete	(%)	**95%**
Mapping method(s)		
▪ Paper/Mylar	(%)	**50%**
▪ CADD	(%)	
▪ GIS	(%)	**50%**
Outfalls inspected/screened	(# or %)	**593**
Illicit discharges identified	(#)	**2 since Permit Year 1**
Illicit connections removed	(#) (est. gpd)	**2 since Permit Year 1**
% 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	(#)	**449**
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)	