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Municipality/Organization: **City of Dover**

EPA NPDES Permit Number: **NHR041037**

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NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

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Certification:

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature:

Printed Name: J. Michael Joyal

Title: City Manager

Date: May 2, 2008

Part II. Self-Assessment

The City of Dover continues to implement the identified tasks in its Stormwater Phase II NPDES minimum control measures. Dover has completed mapping the stormwater system which was initiated prior to the NPDES permit. The City continuously updates the mapping as the system grows and is modified.

The City held one Household Hazardous Waste Collection Day for Dover residents in September 2006. This year's collection included the Towns of Rollinsford, Madbury, and Lee.

Dover's recycling program includes weekly curbside pick up of recyclables as well the operation of a recycling center. The recycling center accepts many items including waste oil, white goods, tires, metal, C & D material, yard waste, computer monitors and other electronics, Freon containing appliances, used antifreeze and mercury containing items to reduce the waste stream and prevent the release of contaminants into the environment. Dover's recycling rate is 52% of the waste stream, and is nationally recognized as a leader.

The City Engineers review all subdivision and site plan applications before the Planning Board. Their review includes storm water plans to insure the site meets all standards during construction and upon completion of the project. All projects are required to submit storm water O&M plans to insure long-term performance of storm water infrastructure. The City Engineering inspection team continued its inspection of construction sites for temporary erosion control during construction and the implementation of permanent stabilization and run off control measures.

Funding for the catch basin cleaning program continued in the 2007 budget. The catch basin cleaning contractor was slowed as a result of the "Mother's Day storm 2006. Flows in the storm water system were high making the cleaning process difficult and more time consuming. Consequently the contractor was able to clean only 650 basins instead of the 800 anticipated. The FY 2008 budget is currently under consideration by the Dover City Council and includes funding to keep the catch basin cleaning program on schedule per the City's Storm Water Management Plan.

The City partnered with the NH Coastal Program, the NH Department of Environmental Services, and residents of the Morningside Park neighborhood to conduct a pet waste pilot project during the Spring and summer of 2005. An extensive outreach and education effort was made within the neighborhood. Kids at the summer park program in the neighborhood learned about the issue, participated in a logo creation contest, stenciled catch basins and hung door hangers with an educational message about the pet waste issue. The project received great press coverage in the local news paper, and members of the pilot team manned a booth at the annual Apple Harvest Day festival held each September in Downtown handing out literature and talking to visitors about the pet waste issue. The NHDES provided a matching grant to the City of Dover to implement a City-wide pet waste program in 2006. The city-wide campaign

included a pledge drive reaching out to each Dover resident registering a dog. Those signing the pledge agree to clean up and properly dispose of their pet's waste. Each dog owner that signed the pledge was entered into a drawing in which the winning dog owner was awarded a professional photograph of the family and their pet as the prize. Catch basin stenciling took place as of summer of 2006 kids park playground program. An intern used the newly acquired Enviroscape model to teach kids about pollution in storm water runoff. The next day kids participated in storm drain stenciling. The Four different areas of the City were reached as part of this effort Garrison School, Woodman Park, Henry Law, and the Berry Brook watershed.

The Planning Department has reviewed the Phase II regulations and has drafted revisions to the City's ordinances and regulations for adoption. The regulations will meet the City's regulatory obligations under the EPA Phase II Storm Water Regulations, add the teeth necessary to enforce compliance on the very few who choose to ignore the conditions of approval for construction projects. It is rare that the City needs to use enforcement action to achieve compliance of construction BMP's or the completion of permanent BMP's. Good communication and regular inspections is sufficient to gain voluntary compliance in 95% of all projects. The draft revisions remain under review. The Engineering Division is working on language revisions of concern to them. It is expected that the final revisions to the ordinances will be completed in the Spring of 2007 with adoption by the Planning Board soon after.

The City of Dover is an active participant in the N.H. Seacoast Storm Water Coalition. Many accomplishments were achieved in 2007. The Coalition developed 2 training manuals to help communities implement Phase II regulations, the Illicit Discharge Detection and Elimination handbook and Best Management Practices for seacoast NH MS4's. Training based on the new manuals was provided to all seacoast NH communities for the development of an IDDE program. Training sessions for all Public Works staff was also offered for all seacoast communities. Sessions were held periodically throughout the summer and fall at five different seacoast locations so all DWP staff would have an opportunity to attend. Many of Dover's staff attended the training.

The City of Dover's Conservation Commission Chairman, who is also a member to the NH House of Representatives, sponsored enabling legislation allowing NH communities to create storm water utilities. This important legislation would provide any NH community the option of creating a storm water utility to fund, operate and maintain its storm water system should the community's governing body vote to do so.

The Berry Brook Watershed Assessment and Management Plan has been drafted and presented to the residents of the watershed and other stake holders, including NHDES. Comments are being incorporated into the final version.

NROC, the Non point pollution Resource Outreach Coalition, has been invited to the community to help develop a strategy and plan to incorporate more Low Impact Development in Dover. A mix of Dover residents, City staff, Dover Board and Commission members, the Strafford County Regional Planning Commission, the NHDES and the Cocheco River Watershed Association members are participating in the project which is being facilitated by the NROC team.

An algae bloom of cyanobacteria at Willand Pond, which is located in Dover and Somersworth, has spurred much attention to water quality issues in both communities. Willand Pond, a kettle hole pond which was previously issued by the City of Dover for drinking water prior to 1950, has been a favorite recreation area for fishermen, picnickers, hikers and swimmers. The NHDES's limnologist attributes the rise in phosphorus levels primarily to the flooded condition of the pond and adjacent forest floor for the last two years as a result of excess precipitation and obstructions placed in wetlands that now blocks the pond's natural outlet. Other contributions of phosphorus include storm water runoff from recently constructed commercial parking lots in the watershed within the last few years. The cities of Dover and Somersworth, NHDES and the local residents are working together to hire a consultant to study the problem and propose alternatives to correct the problems causing the algae blooms.

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 – Permit Year 6
A1	Establish Pollution Hotline	Dean Peschel	Trained secretaries who receive calls	Received 1 email to report potential pollution source. Received 2 phone complaints	Continue to advertise existence of hotline in Community Notes and on City webpage
Revised		Community Services			
A2	Community Cleanup	Doug Steele	Hold 6 & 7th annual clean-up	Dover Main Street clean up, Kiwanis May 5, 2007	Hold 7th Dover Pride clean-up day, May 3, 2008
Revised		Community Services			
A3	Educational Video	Seacoast NH Stormwater Coalition	Complete video and show on local access	Video shown on numerous occasions during May 2006	Show video on local access TV. Convert VHS video to DVD
Revised			Convert to DVD		
A4	Publish Stormwater information	Community Services	Published articles	Published several items relating to the program in Community Notes Fall 07	Continue to place items in Community Notes and local newspapers. Update web page as needed
Revised					
A5	Pet Waste and Storm Water	Dean Peschel NHDES	Lower bacteria levels in un-named brook	Implemented 0city wide Pet waste plan including pledge program by registered dog owners.	Continue to educate the public about pet waste storm water impacts and proper behavior
Revised					
A6	Assist School in SW education	Community Services and volunteers	Make presentations in classroom	Local professional Engineer/mom presented storm water ed using Enviroscape recently purchased by City	Make additional presentations to Dover Schools
Revised					

1a. Additions

A7	Berry Brook Watershed Plan	Community Services	Improve water quality in Berry Brook	Prepared draft of Berry Brook Watershed Plan and held neighborhood meeting to present draft plan and receive comments	Incorporate comments from public and finalize watershed plan

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 – Permit Year 6
B1	Storm Stencil	Community Services	Number completed 3 events	Completed stenciling in Henry Law, Woodman Park and Berry Brook neighborhoods in association with pet waste pilot project.	
Revised					
B2	Sample outfall and other structures	Community Services	Sampled		Explore feasibility to have sampling of outfalls by Volunteer organizations like Great Bay Watch annually to measure progress of WQ improvement from outfalls in priority IDDE areas
Revised			Great Bay Watch sampled and analyzed storm water outfalls and structures with DPW assistance		
B3	Update Ordinances	Planning Steve Bird	Ordinance facilitate compliance of NPDES regulations	Steve Bird of the Planning Department has reviewed NPDES regulations and existing ordinances. Steve drafted revisions to ordinances. Engineering Department is revising language some areas of ordinance	Proposed ordinance revisions for NPDES compliance incorporated into City's ordinances and regulations in May 2008
Revised					
B4	Establish Citizen Hotline	Community Services	Number of calls 2	Same as A1	Continue to promote existence of hotline on website and in Community Notes
Revised					
B5	Pet Waste Pilot Project	Dean Peschel NHDES	Lower bacteria in surface water	Same as A5	Continue to implement City wide pet waste program. Install new pet waste stations at parks with high dog activity
Revised					
B6	Berry Brook Watershed Assessment and Management Plan	City of Dover UNH NHDES	Improved habitat and water quality	Present draft Berry Brook Watershed Assessment and Management Plan to public for comments.	Adopt plan. Work on developing a LID program for the neighborhood implementing rain barrels, rain gardens and dry wells
Revised					

2a. Additions

B7	Willand Pond	Planning	Water quality improvement	RFP for Assessment and Management Plan	Complete study and develop plans to implement recommendations
B8	Add LID to zoning regulations	Planning	Better storm water management at development sites	Develop LID language to incorporate in ordinances and standards	Begin implementing

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 – Permit Year 6
C1	Storm water System Mapping	Community Services	Have completed map of system and keep maintained	Continue collection of infrastructure condition for storm drain system. Update system map as system grows and is repaired.	Continue collection of infrastructure condition for storm drain system. Update system map as system grows and is repaired.
Revised					
C2	Establish Illicit Discharge Program	Community Services	Establish Program and Implement	Removed 1 illicit sewer connections and tied to sanitary sewer Performed detection work in Berry Brook watershed and Washington St area Responded to 2 transient discharge complaints	Continue to look for illicit connections and remediate
Revised					
C3	Catch Basin Stenciling	Community Services	Same as B1	Same as B1	Same as B1
Revised					
C4	Update City Ordinance	Community Services and Planning	Same as B3	Same as B3	Same as B3
Revised					
C5	Secure Funding	Community Services	Find funding for programs	Conducted Watershed plan for Berry Brook. Applied for implementation funding of plan.	Begin implementing of Berry Brook Watershed Plan. Look for grant funds
Revised					
Revised					

3a. Additions

C6	Participation in Seacoast Storm Water Coalition – development of NH IDDE Manual	Community Services	Distribution of published manual	Conducted IDDE training of Dover staff using NH IDDE Manual	Continue implementing IDDE plan
C7	Include Berry Brook watershed as priority area in IDDE plan	Community Services	Remove bacterial sources	Continue to identify sources and remove Target pet owners in watershed	Continue to identify sources and remove Target pet owners in watershed

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 – Permit Year 6
D1	Review and Update Ordinances	Community Services and Planning	Have legal authority to enforce Phase II	Same as B3	Same as B3
Revised					
D2	Develop Inspection Program	Community Services and Planning	Site inspections to ensure compliance of Phase II	Engineering inspector inspects all sites for erosion control daily, weekly	Continue inspection program.
Revised					
D3	Direct Contractors to Educations Materials	Community Services	Better compliance of BMP's	Engineering provides to developers and site contractors at pre-construction conference.	Continue to educate community.
Revised					
D4	Provide City Staff Training	Community Services	Have educated workforce	Held training on Good Housekeeping at Dover DPW utilizing new manual	Continue sending staff to educational opportunities regarding storm water.
Revised		Seacoast Coalition			
Revised					
Revised					

4a. Additions

5. Post-Construction Stormwater Management in New Development and Redevelopment

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 5 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 6
E1	Review and Update Ordinances	Community Services and Planning	Have City Ordinances that comply with Phase II requirements	Review and adopt proposed ordinance revisions. Expect adoption in summer of 2008	Adopt regulations
Revised					
E2	Develop and Implement O & M Plans for Private Sites	Community Services and Planning	Design and implement program which tracks maintenance	All approved site plans required to submit O & M plans to City and report annually to the City. Incorporate tracking system.	Continue to require O & M plans at new sites and track compliance.
Revised					
E3	Implement Inspection Program	Community Services	Insure BMP are constructed to plan	The Engineering Technician inspects all sites for proper installation of BMP prior to issuance of Certificate of Occupancy	Continue to inspect sites.
Revised					
E4	Review and Update BMP List	Community Services	Maintain BMP list	Challenge design engineers to prepare effective stormwater system designs using appropriate BMP's	Continue.
Revised					
Revised					
Revised					

5a. Additions

E5	Encourage LID	Planning	Improve site development	Identified LID as a priority issue for community	Educate and develop LID ordinances for adoption

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 – Permit Year 6
F1	Create Storm Drain Inspection	Community Services	Have a record of system conditions	Continue to develop system and begin field data collection and input to software	
Revised					
F2	Implement Inspection Program	Community Services	Collect data useful for prioritization of maintenance	Continued inspections while cleaning catch basins	Continue inspections while cleaning catch basins
Revised					
F3	Create Street Sweeping Plan	Community Services	Cleaner storm system	Continued street sweeping program.	Continue street sweeping program.
Revised					
F4	Implement Catch Basin Cleaning Program	Community Services	Clean every catch basin once every 4 years	Contracted catch basin cleaning. Completed cleaning of 450 basins.	Will contract out catch basin cleaning if successful in receiving funds in FY 09 budget.
Revised					
F5	Establishment of Stormwater Utility	Community Services	Reliable funding source for stormwater system	Supported Bill in NH Legislature to enable communities in NH to establish storm water utilities	Continue to consider possible development of a Storm Water Utility. Seacoast Storm Water Coalition has agreed to explore benefits and obstacles to developing a storm water utility in NH communities. Begin education process to develop support for Dover to establish a storm water utility
Revised		Seacoast storm water Coalition			
Revised					

6a. Additions

F6	Explore use of salt brine	Community Services	Reduce amount of salt and sand used	Have established conditions in which salt brine is effective	Continue use of salt brine
F7	Provide DPW staff training for Pollution Prevention/good house keeping	Seacoast Storm Water Coalition	Improve staff understanding and performance of pollution prevention	Provided DPW staff training using NH manual developed by Seacoast Storm Water Coalition	

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 2 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 3
Revised					
Revised					
Revised					
Revised					
Revised					
Revised					

7a. Additions

7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed Used paid college intern	(y/n)	no
Annual program budget/expenditures	($)	

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	100%
Stormwater management committee established	(y/n)	no
Stream teams established or supported	(# or y/n)	2
Shoreline clean-up participation or quantity of shoreline miles cleaned	(y/n or mi.)	yes
Household Hazardous Waste Collection Days		
▪ days sponsored	(#)	1
▪ community participation Dover, Madbury, Lee	(%)	277
▪ material collected	(tons or gal)	3118 gal
School curricula implemented	(y/n)	no

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	(%)	100
Estimated or actual number of outfalls	(#)	210
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	100
Outfalls inspected/screened	(# or %)	
Illicit discharges identified	(#)	2
Illicit connections removed	(#) (est. gpd)	2
% of population on sewer	(%)	75
% of population on septic systems	(%)	25

Construction

Number of construction starts (>1-acre)	(#)	37
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
Site inspections completed	(# or %)	100 %
Tickets/Stop work orders issued/Building Permits Withheld/Occupancy Permits Held	(# or %)	1
Fines collected	(# and $)	N/A
Complaints/concerns received from public	(#)	10

Post-Development Stormwater Management

Estimated percentage of development/redevelopment projects adequately regulated for post-construction stormwater control	(%)	100
Site inspections completed	(# or %)	100
Estimated volume of stormwater recharged	(gpy)	

Operations and Maintenance

Average frequency of catch basin cleaning (non-commercial/non-arterial streets)	(times/yr)	.25
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	.25
Total number of structures cleaned	(#)	416
Storm drain cleaned	(LF or mi.)	0
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	700
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	($)	$4,000

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	Once/Spring

Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	Weekly
Qty. of sand/debris collected by sweeping	(lbs. or tons)	
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	Reuse
Cost of sweepings disposal	($)	
Vacuum street sweepers purchased/leased	(#)	0
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)	Yes
Manual control spreaders used	(y/n)	No
Automatic or Zero-velocity spreaders used	(y/n)	Yes
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)	