

Municipality/Organization: City of Dover

EPA NPDES Permit Number: NHR041037

MaDEP Transmittal Number: _____

**Annual Report Number
& Reporting Period:** No. 8 March 11 – March 12

NPDES PII Small MS4 General Permit Annual Report

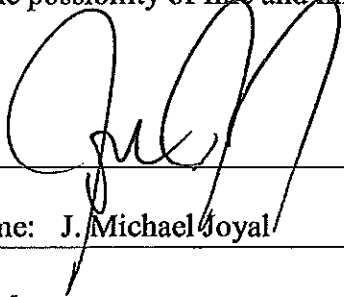
Part I. General Information

Contact Person: Douglas Steele **Title:** Community Services Director

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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: 4/26/12

Part II. Self-Assessment

The City of Dover continued to implement the identified tasks in its Stormwater Phase II NPDES minimum control measures in year seven of the initial General Permit. The Best Management Practices that Dover has continued to implement include:

- 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 as staff finds inconsistencies between maps and field inspections during catch basin cleaning. An employee who was restricted to light duty was utilized to accompany the catch basin cleaning contractor.
- The City held one Household Hazardous Waste Collection Day for Dover residents in October 2011. 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. The center also has a book exchange where residents can leave books for others to take. Dover's recycling rate is 52% of the waste stream, and is nationally recognized as a leader. The center accepted yard waste in the following amounts 1,300 tons of grass and leaves and 1,100 tons of brush.
- 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 per approved design plans. An electronic tracking system was implemented to monitor compliance of private sites with their Stormwater O&M plan using a grant from the Piscataqua Region Estuary Partnership. The system will provide the City of Dover with a tool to help insure stormwater O&M's are being implemented. The system was demonstrated at the Seacoast NH Stormwater Coalition meeting in order to share the technology with the other member communities. Compliance reporting of O&M annual activities by private site owners continues to be low. The City of Dover issued letters to remind owners of their obligation in the fall one before reports were due; however most did not file reports. Limited resources at the City currently prevent more aggressive enforcement by the City.
- The City continued to promote and implement its pet-waste program. A Scoop the Poop Pledge was given to each resident dog owner to sign at the time they registered their dog.

- Funding for the catch basin cleaning program was increased in the FY 2010 budget to reflect the anticipated MS4 permit requirements of cleaning 50% of the system annually. The catch basin cleaning contractor cleaned 1234 basins during the summer and fall of 2011. The FY 2013 budget is currently under consideration by the Dover City Council and includes funding at the same level as FY2012. The 2013 budget should be enough to continue meeting the proposed EPA General Permit requirement that every catch basin is cleaned at least once in a two year period.
- The City of Dover hosts and is an active participant in the N.H. Seacoast Storm Water Coalition. The N.H. Seacoast Storm Water Coalition has accomplished much in nine years to further the goal of improved stormwater quality. Issues such as Public awareness, training of staff, and other common needs of Coalition member communities have been worked on successfully in collaboration. The Coalition also provides a forum in which to share our individual program experiences both good and bad. The coalition has been awarded a NH Coastal Program grant to work on finding ways to help communities to lower fertilization rates on public recreation fields while maintaining the quality of the fields. A training seminar was provided for Community staff responsible for turf management was well attended. Dover had three representatives at the seminar.
- An illicit connection was discovered on while doing field maintenance on a storm sewer line at 93 Old Dover Point Road in 2010. The property owner was notified and the property was connected to the sanitary sewer 2011.

New activities aimed to achieve improved stormwater program performance and water quality improvement include:

- The Planning Department and Engineering Division adopted amendments to Dover's Subdivision and Site Review regulations that strengthen stormwater requirements as required by the MS4 General Permit. The new regulations strongly encourage the use of Low Impact Development techniques to address stormwater runoff. The amendments require all projects that propose to disturb an acre or more to submit plans to the Planning Board for review and approval. The amendments also give the City the authority to regulate projects that have less than an acre impact that are in close proximity of sensitive ecologic areas which could be potentially impacted. A Planning Board Subcommittee was formed to look at the use of Porous pavement. The purpose of the group was to better understand the benefits and limitations of porous pavement and report back to the Planning Board during the summer of 2010.
- The Berry Brook Watershed Assessment and Management Plan was finalized in 2008. During the year of 2011 much was accomplished in the upper portion of the watershed. The re-establishment of more than 1000 feet of stream bed was achieved at the headwaters of Berry Brook. Two bio-swales were created to treat two areas developed areas that discharge to the new stream bed. A gravel wetland will provide treatment of a large parking lot and City street runoff which feed into the newly

established stream bed will be completed in the Spring of 2012. A public elementary school, the Home Street School, participated in the watershed improvements by adding two rain gardens which infiltrate and treat the roof at the school, and a tree box filter that filter runoff from a newly paved parking area. The school is participating in the construction of an additional bio swale that will treat water from another proposed parking area off site that the City is constructing to treat street runoff in 2012. The combination of a rain garden followed by a bio-swale was constructed in 2011 along Snows Court. The stormwater structures will infiltrate and treat more than 1.5 acres of residential and street run off that has caused nuisance flooding and erosion. The neighborhood was very engaged and supportive of the improvements in the planning of the project as well as during construction. One residential rain garden was installed which redirected roof runoff from the sanitary sewer. Roof run off is a significant source of inflow into the sewer system.

- Restored a severely eroded stormwater outlet in the Briarwood subdivision which was constructed in 1986. A poorly designed and constructed stormwater outlet discharged large volumes of stormwater onto unprotected silty clay soils which are highly erodible. The restoration included a stone outlet and bio swale.

Part III. Summary of Minimum Control Measures

1. Public Education and Outreach

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
A1 Revised	Establish Pollution Hotline	Bill Boulanger Community Services	Trained secretaries who receive calls	Received no phone complaints	Continue to advertise existence of hotline in Community Notes and on City webpage
A2 Revised	Community Cleanup	Doug Steele Community Services	Held 9 th annual clean-up	Dover Main Street clean up, April 28, 2011	Hold 10 th Dover Pride clean-up day, April 28, 2012
A3 Revised	Educational Video	Seacoast NH Stormwater Coalition	Show on local access Converted to DVD	Video shown on numerous occasions during May 2011	Show video on local access TV.
A4 Revised	Publish Stormwater information	Community Services	Published articles and public response	Made several public presentations regarding stormwater and Berry Brook watershed restoration activities	Hold meetings to educate public on stormwater utility issue. Engage Berry Brook watershed residents on implementation of LID techniques to disconnect impervious surface in the watershed
A5 Revised	Pet Waste and Storm Water	Dean Peschel NHDES	Lower bacteria levels in unnamed brook	Continued to request dog owners to sign a pledge to pick up their pet's waste during the coming year when they registered their dog in April.	Continue to educate the public about pet waste storm water impacts and proper behavior
A6 Revised	Assist School in SW education	Community Services and volunteers	Make presentations in classroom	Engaged Home Street school students during the construction of rain gardens in June of 2011	Make presentations to Home St School as part of rain garden and tree filter installation with UNH Stormwater Center
A7	Berry Brook Watershed Plan	Community Services	Improve water quality in Berry Brook	Constructed several treatment systems in the watershed and restored over 1000 feet of stream bed.	Construct bio swale and complete gravel wetland in upper watershed, and perform stream restoration in the lower watershed.

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
B1 Revised	Storm Stencil	Community Services	Number completed 3 events	No stenciling in 2011	
B2 Revised	Sample outfall and other structures	Community Services	Sampled Great Bay Watch sampled and analyzed storm water outfalls and structures with DPW assistance	Storm water Coalition met with Dr Steve Jones who is working with Seagrass volunteers to work with coalition. Funding was secured to start the program and the Towns of Greenland and Exeter are serving as the pilot communities for the first year of operation. Volunteers are enthusiastically participating knowing their work will be useful in identifying problem areas.	Expand the volunteer storm outlet sampling to more Seacoast Stormwater Coalition communities.
B3 Revised	Update Ordinances	Planning Steve Bird	Ordinance facilitate compliance of NPDES regulations	Dover as a member of the Great Bay Municipal Coalition and Southeast Watershed Alliance is supporting efforts to develop stormwater regulations that will be hopefully adopted by all communities in the Piscataqua watershed as a means to apply consistent standards to protect water quality.	Lobby communities to adopt the proposed development stormwater regulations.
B4 Revised	Seacoast Stormwater Coalition	Community Services	Meet cooperatively with other Seacoast NH MS4 entities	Focus group process determined nutrient removal as high priority issue for Coalition. Applied for and received grant to develop fertilization guidelines and implement with Coalition communities for public recreation fields	Several communities will implement fertilizer recommendations on their turf fields to reduce nutrients and maintain healthy recreation fields.
B5 Revised	Pet Waste Pilot Project	Community Services	Lower bacteria in surface water	Same as A5	Same as A5
B6 Revised	Berry Brook Watershed Assessment and Management Plan	City of Dover UNH NHDES	Improved habitat and water quality	Received 3 grants to implement Berry Brook Watershed management Plan \$700,000 Began implementation at Home St School. Implementation during 2011 and 2012	Implement additional stormwater structures reducing connected impervious cover from 30% to less than 10% in the upper Berry Brook watershed.

2a. Additions

B7	Willand Pond	Planning	Water quality improvement	Draft Management Plan completed	
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B8	Add LID to zoning regulations	Planning	Better storm water management at development sites	Review proposed SWA stormwater regulations	Modify existing stormwater regulation incorporating additional recommendations from the SWA proposal that are missing from the current Dover regulations
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3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
C1 Revised	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.
C2 Revised	Establish Illicit Discharge Program	Community Services	Establish Program and Implement	Removed illicit connection found on Old Dover Point Road.	Continue to look for illicit connections and remediate.
C3 Revised	Catch Basin Stenciling	Community Services	Same as B1	Same as B1	Same as B1
C4 Revised	Update City Ordinance	Community Services and Planning	Same as B3	Completed	Same as B3 and B8
C5 Revised	Secure Funding	Community Services	Find funding for programs	Received funding to continue program and carry out Berry Brook restoration and Brickyard restoration.	Apply for available funding opportunities that become available
Revised					
Revised					

3a. Additions

C6	Participation in Seacoast Storm Water Coalition – development of NH IDDE Manual	Community Services	Distribution of published manual	Continued participation in Seacoast Stormwater Coalition	Continue participation in Seacoast Stormwater Coalition
C7	Include Berry Brook watershed as priority area in IDDE plan	Community Services	Remove bacterial sources	Done	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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
D1	Review and Update Ordinances	Community Services and Planning	Have legal authority to enforce Phase II	Planning Board Subcommittee completed investigation of porous pavement and decided to encourage use where appropriate.	Incorporate recommendations from SWA proposed stormwater regulations that improve Dover's regulations
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	Participated in Great Bay Dialog initiated by PREP Staff attended UNH Stormwater Center seminar on LID stormwater treatment	Continue sending staff to educational opportunities regarding storm water.
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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
E1	Review and Update Ordinances	Community Services and Planning	Have City Ordinances that comply with Phase II requirements	Done	Same as B3 and B8
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. Developed electronic tracking system to manage compliance for private site O&M plan in 2009. Sent notice to all require to submit annual O&M reports to City of Dover.	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 utilize LID where ever possible.	Continue.
Revised					
Revised					
Revised					

5a. Additions

E5	Encourage LID	Planning	Improve site development	Made 1 presentations which highlighted LID as a desired outcome in future development projects	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 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
F1 Revised	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	
F2 Revised	Implement Inspection Program	Community Services	Collect data useful for prioritization of maintenance	Continued inspections while cleaning catch basins. 1234 basins cleaned and inspected in 2011	Continue inspections while cleaning catch basins
F3 Revised	Create Street Sweeping Plan	Community Services	Cleaner storm system	Continued street sweeping program.	Continue street sweeping program.
F4 Revised	Implement Catch Basin Cleaning Program	Community Services	Clean every catch basin once every 4 years	Contracted catch basin cleaning. Completed cleaning of 1234 basins.	Proposed FY13 budget includes funding
F5 Revised	Establishment of Stormwater Utility	Community Services Seacoast storm water Coalition	Reliable funding source for stormwater system	Continue to monitor the public reaction to increasing Stormwater budgets as M/S4 requirements come online with anticipated permit.	None planned
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 in appropriate winter conditions
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 on LID stormwater treatment construction techniques	Provide staff training on road salt use and impacts from winter storm operations

6. Pollution Prevention and Good Housekeeping in Municipal Operations

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 9 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 10
F1 Revised	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	
F2 Revised	Implement Inspection Program	Community Services	Collect data useful for prioritization of maintenance	Continued inspections while cleaning catch basins. 1234 basins cleaned and inspected in 2011	Continue inspections while cleaning catch basins
F3 Revised	Create Street Sweeping Plan	Community Services	Cleaner storm system	Continued street sweeping program.	Continue street sweeping program.
F4 Revised	Implement Catch Basin Cleaning Program	Community Services	Clean every catch basin once every 4 years	Contracted catch basin cleaning. Completed cleaning of 1234 basins.	Proposed FY13 budget includes funding
F5 Revised	Establishment of Stormwater Utility	Community Services	Reliable funding source for stormwater system	Continue to monitor the public reaction to increasing Stormwater budgets as MS4 requirements come online with anticipated permit.	None planned
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 in appropriate winter conditions
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 on LID stormwater treatment construction techniques	Provide staff training on road salt use and impacts from winter storm operations

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		(\$)	\$900,000

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	60%
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	(%)	318
▪ material collected	(tons or gal)	6600 gal
School curricula implemented	(y/n)	No

Legal/Regulatory

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

Mapping and Illicit Discharges

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	(#)	0
Illicit connections removed	(#) (est. gpd)	1
% of population on sewer	(%)	75
% of population on septic systems	(%)	25

Construction

Number of construction starts (>1-acre)	(#)	3
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	(#)	2

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)	.5
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	.5
Total number of structures cleaned	(#)	1234
Storm drain cleaned	(LF or mi.)	0
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	270 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	\$28,000
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 %)	N/A

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)	