

Municipality/Organization: City of Dover

EPA NPDES Permit Number: NHR041037

NHDES Transmittal Number:

Annual Report Number & Reporting Period:

No. 11 April 1, 2013 – March 31, 2014

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Douglas Steele

Title: Community Services Director

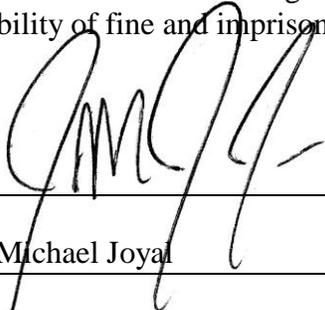
Telephone #: (603) 516-6450

Email: d.steele@dover.nh.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:



Printed Name: J. Michael Joyal

Title: City Manager

Date: April 25, 2014

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 eleven 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 Community Services staff member is assigned to accompany the catch basin cleaning contractor and record the conditions of each basin .
- The City held one Household Hazardous Waste Collection Day for Dover residents on September 27, 2013. 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 60% of the waste stream, and is nationally recognized as a leader. The center accepts yard waste and accepted 1104 cubic yards. The City also conducts an annual curbside leaf collection each fall in which 111 tons were collected. The City also provides an annual curbside leave collection which is conducted for one week during the fall after leaves have dropped.
- 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 issues 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 assistant City Engineer was assigned the task of improving compliance with reporting of stormwater O&M by the

privately owned commercial sites.

- The City continued to promote and implement its pet-waste program. A Scoop the Poop education reminder was included in the weekly Dover Download, an email blast to residents and businesses, highlighting the importance of cleaning up pet waste.
- 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 1251 basins during the summer and fall of 2013. The FY 2014 budget is currently under consideration by the Dover City Council and includes funding at the same level as FY2014. The 2014 budget should be enough to continue meeting the proposed EPA General Permit requirement that every catch basin is cleaned prior to the sump becoming 50% full.
- 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 ten 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 hosted an EPA presentation of the draft 2013 NH MS4 permit and discussed comments to the draft during the comment period.
- No illicit connections were discovered during this annual reporting period.

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. The Southeast Watershed Alliance which the City of Dover is an active member, has prepared a model stormwater ordinance for all communities within the NH coastal watershed to adopt. Dover's City Manager has instructed the Planning and Community Services Departments to review the model ordinance and incorporate the concepts presented in the model into the City's requirements.
- The Berry Brook Watershed Assessment and Management Plan was finalized in 2008. Though not a part of the City's stormwater permit requirements, the efforts conducted in the Berry Brook watershed will be very useful in the implementation

of anticipated requirements in future permits. Therefore, the work being done in the Berry Brook watershed is included in the permit annual report as a means of sharing with EPA and others. 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. In 2012 a gravel wetland was constructed to provide treatment for a large shopping center parking lot and a portion of a City street runoff which feed into the newly established stream bed. A public elementary school, the Horne Street School, participated in the watershed improvements in 2011 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 will continue participating in the construction of a bio swale that will treat water from another proposed parking area off site that the City is constructing to treat street runoff in 2013. The combination of a rain garden in 2011 followed by a bio-swale was constructed in 2012 along Snows Court. The new stormwater structures 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. In 2012 a bioswales were constructed to treat runoff from Lowell Ave and Horne St and Crescent Ave. Both bioswales were installed with automated instantaneous samplers to monitor performance. The City also provided an additional \$4,000 in sample analysis to monitor performance of the BMP's. Though the Berry Brook watershed restoration is not part of the City's MS4 commitments the work is an important project in assessing how well BMP's can restore water quality in a highly developed residential watershed which was more than 30% impervious prior. In 2013 a bioretention system was designed and installed on private property within an existing drainage easement off Horne St with the full support of the property owner. The system treats runoff from 4.2 acres of which 1.6 acres or 39% is impervious. Two additional bio retention systems are designed for installation in 2014, located at Roosevelt Ave and Chesley St.. The BMP's will treat 3.0 and 5.4 acre drainage areas which are 33% and 23% impervious respectively. A video was completed on the Berry Brook project in 2013. The video was produced by the City of Dover's media coordinator and explains the water quality issues associated with stormwater as well as how the Berry Brook watershed restoration work utilizing LID will improve conditions in the brook. The video also explains how individuals can make a difference by altering their behavior such as picking up pet waste, proper fertilizer application, and use of rain barrels to harvest rain water or even construct a rain garden.

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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
A1	Establish Pollution Hotline	Bill Boulanger	Trained administrative personnel who receive calls	Received no phone complaints	Continue to advertise existence of hotline on City webpage
Revised		Community Services			
A2	Community Cleanup	Doug Steele	Held 11 th annual clean-up	Dover Main Street clean up, April 20, 2013	Hold 11 th Dover Pride clean-up day, May 10, 2014
Revised		Community Services			
A3	Educational Video	Seacoast NH Stormwater Coalition	Show on local access	Created a video on Berry Brook efforts to reduce impervious through implementation of LID retrofits of City drainage system, and home owners rain gardens and rain barrels as educational resource.	Show video on local access TV.
Revised			Converted to DVD		
A4	Publish Stormwater information	Community Services	Published articles and public response	Made several public presentations regarding stormwater and Berry Brook watershed restoration activities in partnership with the UNH Stormwater Center.	Engage Berry Brook watershed residents on implementation of LID techniques to disconnect impervious surface in the watershed.
Revised					
A5	Pet Waste and Storm Water	Dean Peschel NHDES	Lower bacteria levels in unnamed brook	Utilized Dover Download, a weekly email blast to residents and businesses, to stress importance of cleaning up pet waste.	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		
Revised					

1a. Additions

A7	Berry Brook Watershed Plan	Community Services	Improve water quality in Berry Brook	Constructed treatment bioretention BMP	Construct additional BMP's in the watershed to disconnect additional impervious area.
----	----------------------------	--------------------	--------------------------------------	--	---

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
B1 Revised	Storm Stencil	Community Services	Number completed 3 events	No stenciling in 2013	
B2 Revised	Sample outfall and other structures	Community Services	Sampled Great Bay Watch sampled and analyzed storm water outfalls and structures with DPW assistance	The Seacoast Storm water Coalition met with Dr Steve Jones who is working with Sea Grant volunteers to perform outlet sampling for coalition communities. 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 has completed development of model 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.	Dover will incorporate the recommendations of the model regulations into the City's development standards.
B4 Revised	City of Dover	Community Services/ School	Meet cooperatively to establish city fertilization program consistent with NEIWPIC recommendations	Focus group process to develop fertilization guidelines and implement for all City maintained areas was completed in March 2014. Developed program to support growth ,and minimize adverse impact to residents and the environment.	Continue implementation of program
B5 Revised	Pet Waste Pilot Project	Community Sevices	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	Completed additioanal BMP's to improve water quality in 2013	Implement additional stormwater structures reducing connected impervious cover in the Berry Brook watershed.

2a. Additions

B7	Initiate committee to formulate Stormwater Management Plan	Community Services	Public supported Stormwater Management Plan		Form Committee and begin development of plan
B8	Add LID to zoning regulations	Planning	Better storm water management at development sites		Review existing stormwater regulation incorporating additional recommendations from the SWA model regulations that are missing from the current Dover regulations

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
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	Found no illicit discharges in 2013.	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		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	
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	

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
D1	Review and Update Ordinances	Community Services and Planning	Have legal authority to enforce Phase II	Worked on development of model stormwater regulations as member of SWA	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	LID BMP O&M training to DPW staff by UNH Stormwater Center. Staff attended UNH Stormwater Center seminar on LID stormwater treatment	Continue sending staff to educational opportunities regarding storm water.
Revised		UNH SC			
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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
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.	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

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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
F1 Revised	Create Storm Drain Inspection	Community Services	Have a record of system conditions	Continued to have staff inspect structure condition during cleaning	
F2 Revised	Implement Inspection Program	Community Services	Collect data useful for prioritization of maintenance	Continued inspections while cleaning catch basins 1251 basins cleaned and inspected in 2013	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 1251 basins.	Proposed FY14 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 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 installing LID stormwater treatment during construction of BMP's at Berry Brook	Utilize staff to install LID BMP's in Berry Brook

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 11 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 12
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	(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)	
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, and Rollinsford	(%)	396
▪ material collected	(tons or gal)	683 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	(#)	0
Illicit connections removed	(#) (est. gpd)	0
% of population on sewer	(%)	75
% of population on septic systems	(%)	25

Construction

Number of construction starts (>1-acre)	(#)	7
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 %)	0
Fines collected	(# and \$)	N/A
Complaints/concerns received from public	(#)	5

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	(#)	1251
Storm drain cleaned	(LF or mi.)	0
Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	50 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		Landfill
Cost of screenings disposal	(\$)	\$3,000

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)	450
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)	