

Municipality/Organization: Town of Chatham

EPA NPDES Permit Number: MAR041101

MADEP Transmittal Number: W- 035745

**Annual Report Number
& Reporting Period:**

No. 15: April 17 - March 18

NPDES PII Small MS4 General Permit Annual Report

Part I. General Information

Contact Person: Robert Duncanson, Ph.D.

Title: Dir. of Health & Natural Resources

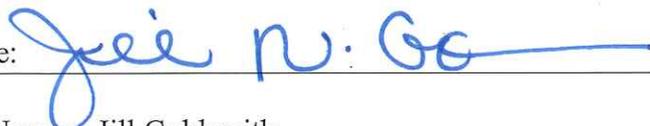
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Certification:

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: Jill Goldsmith

Title: Town Manager

Date: April 27, 2018

Part II. Self-Assessment

The Town of Chatham has completed the required self-assessment and has determined that our municipality is working toward full compliance as submitted to EPA and approved as Chatham's NOI to the General Permit issued to Massachusetts under Phase II of the Regulations. This annual report demonstrates and documents our efforts toward full compliance.

The Town of Chatham continues to work aggressively to address stormwater problems identified through past shoreline sanitary surveys and other water quality programs. Stormwater evaluation and Best-Management-Practice (BMP) designs are routinely incorporated into road and sewer collection system expansion projects to reduce or eliminate stormwater discharge(s) into sensitive resource areas. New municipal facilities incorporate stormwater BMPs into facility design.

Since the beginning of the Phase II Program in Chatham 14 stormwater discharges have been mitigated through installation of stormwater BMPs. In most cases the direct discharge of stormwater has been eliminated through installation of infiltration BMPs, in several cases the stormwater is directed to treatment BMPs prior to discharge.

The Muddy Creek Restoration Bridge Project, a cooperative project of Chatham, Harwich, MA Division of Ecological Restoration, and US Fish & Wildlife Service, was completed in April 2016. As a result of Project completion the direct discharge of stormwater to Muddy Creek has been eliminated (former site CHA-22). The new bridge incorporates treatment BMP's for solids removal and infiltration prior to overflow discharge to vegetated shoulders eliminating discharge to Muddy Creek. The site is space constrained due to the proximity of wetlands and open water and thus the use of nutrient specific BMP's was not feasible. Water quality monitoring has been underway since Project completion to document improvement(s).

The Mitchell River Bridge Project, a MassDOT-Highway project was completed in June 2016. This project incorporates stormwater BMPs for the approach road sections providing treatment and infiltration prior to any overflow being discharged to the Mitchell River (CHA-8).

Stormwater mitigation improvements in the area of the Little Mill Pond Landing (CHA-15) were completed during a previous reporting period as part of sanitary sewer extensions installed as part of Phase 1C-1 of the town's Comprehensive Wastewater Management Plan. Additional stormwater mitigation at this location has been incorporated into the final designs for upgrade of the adjacent sewer pump station, this project is expected to go out to bid in 2018.

Stormwater mitigation improvements on Oyster Pond Furlong Road and Town Landing (CHA- 10) were completed this reporting

period as part of Phase 1C-2 sanitary sewer installation. Previous to this work stormwater from the road and Landing parking area was directed as sheetflow directly into Oyster Pond, a tidal salt pond important for shellfishing and swimming. Mitigation included installation of three (3) sets of deep sump catch basins capturing road runoff and directing it to infiltration structures, leaching basins or leaching chambers depending on the available depth to groundwater. For the lower end of the road and landing parking area where high groundwater and poor soils prevent the use of leaching structures the project installed a low-maintenance prototype sand filter system to treat the remaining runoff prior to discharge to Oyster Pond. This project was funded (75%) by a grant from USDA as part of the Cape Cod Water Resource Restoration Project. This work is located on the same road as the EPA project described in the next paragraph and completes mitigation of stormwater discharges to Oyster Pond at this location.

In January 2015 the Town was selected to participate in an EPA stormwater BMP demonstration project targeting nitrogen removal as part of the Southeast New England Coastal Watershed Restoration program. This project is designed to demonstrate the feasibility and efficacy of an innovative surface gravel wetland design for the removal of nitrogen as an “add-on” to existing stormwater infrastructure. Construction of the project, installed off-line on the existing stormwater discharge piping on Oyster Pond Furlong, was completed and the system brought on-line during a previous reporting period. EPA continues to finalize monitoring protocols, SOPs, etc. with the expectation of monitoring beginning in mid-2018 following system acclimation/stabilization and EPA funding availability. Monitoring will continue for several years and the project used as an educational/demonstration resource for other Cape and SE Massachusetts communities.

The Town continues dialogue with MassDOT - Highway to address stormwater runoff from state road Route 28 as part of planned upgrades of the roadway. State funding limitations continue to stymie actual progress on remediation.

The Town believes that these actions, as well as others completed prior to the Phase II Permit, demonstrate Chatham’s ongoing commitment to addressing stormwater issues.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
1.1	Educational Flyer	Department of Natural Resources (DNR) (formerly Health & Environment (DHE))	Distributed Annually	Goal met. Continued distribution of educational materials at municipal office locations, during public events, and during public information presentations. Continued cooperation in the development and distribution of materials with the Pleasant Bay Alliance. Cape Cod as a region has been engaged in multiple discussions regarding formation of a “stormwater collaborative” in response to the new MS4. A goal of a collaborative would be work toward development of a coordinated educational program.	Preparation and distribution of educational materials on irrigation and its impact on stormwater. Continued participation in development efforts for a Cape Cod stormwater collaborative to develop and implement a coordinated, unified educational program.
Revised					
1.2	Web Page	DNR	Develop & Maintain	Goal met. Storm water information/education web page maintained on Town’s web site. Has information from and links to EPA, MADEP, and regional storm water web sites. IT Dept. indicates 63 views for reporting period.	Maintain and update web page as needed.
Revised					
1.3	Annual Program Review	DNR, DPW, Board of Selectmen	Meeting held per schedule	Goal met. Progress/update meeting held annually as part of yearly budget process.	Same as year 15. Program, budget discussions will be

Revised					enhanced in response to new MS4 Permit.
1.4	Pet Waste Control	DNR, Animal Control	Expand/document Mutt Mitt program	Goal met. Mutt Mitt program continues to be a success. The program has expanded as neighborhoods have joined the core program funded and maintained by the Town. The total number of Mutt Mitt dispenser locations in Chatham is now over 23. In excess of 50,000 Mutt Mitts were distributed in calendar year 2017.	Same as Year 15.
Revised					
Revised					

1a. Additions

2. Public Involvement and Participation

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
2.1	Citizen Water Quality Monitoring	DNR	Program goals met/annual meeting held	Goal met. Summer water quality nutrient monitoring completed as per program goals. Continued coordination with Chatham Water Watchers and Pleasant Bay Alliance to meet program goals.	Same as Year 15.
Revised					
2.2	Storm Drain Marking	DNR	Document number marked/year	Effort postponed to Year 16 for re-evaluation of program effectiveness.	Evaluate effectiveness of storm drain marking programs. Reported issues of deteriorating paint being of possible impact to the environment resulted in consideration of a shift to using catch basin grates with “No Dumping” message cast into the grating.
Revised					
2.3	Annual Program Review	DNR, DPW, Board of Selectmen	Meeting held per schedule	Goal met. Progress/update meeting held annually as part of yearly budget process.	Same as Year 15. Program, budget discussions will be enhanced in response to new MS4 Permit.
Revised					
2.4	Household Hazardous Waste Collections	DNR	Document participation	Goal met. Six household hazardous waste collections were held May through October 2017, jointly with 2 adjoining towns, in cooperation with Cape Cod Cooperative Extension. In 2017 161 Chatham households participated, compared to 260 in 2016; generating approximately 21,097 lbs of material, down from the 24,000 lbs collected in 2016.	Same as Year 15.
Revised					
2.5	Web Page	DNR	Documents hits	Goal met. Storm water information/education web	Maintain and update web page as needed.

Revised				page maintained on Town's web site. Has information from and links to EPA, MADEP and regional storm water web sites. IT Dept. indicates 63 views for reporting period.	
Revised					

2a. Additions

3. Illicit Discharge Detection and Elimination

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
3.1	Stormwater System Mapping	DNR, DPW, GIS	Complete mapping by year 4 of program	Integration into GIS system and QA/QC is ongoing as resources allow.	Consultant being hired to complete integration into GIS system.
Revised					
3.2	Identify and Document Illicit Connections	DPW, DNR	Document illicit connections	Ongoing as part of stormwater infrastructure maintenance Past monitoring of discharges during DMF Sanitary Surveys have not documented the presence of illicit discharges.	Continued staff training in the detection of illicit discharges as part of new MS4 Permit. Continued monitoring of discharges during DMF Sanitary Surveys.
Revised					
3.3	Eliminate Illicit Connections	DPW, DNR	Quantify illicit connections corrected	Discharges are being corrected as part of overall efforts to mitigate stormwater discharges.	Continue monitoring.
Revised					

3.4	Review Existing Regulatory Mechanisms	DNR	Complete review by December 2004	No progress, due to staff time limitations.	Complete review and recommend necessary additions/changes.
Revised					
3.5	Educational Flyer	DNR, DPW	Distributed annually	No progress, due to staff time limitations.	Continued participation in development efforts for a Cape Cod stormwater collaborative to develop and implement a coordinated, unified educational program.
Revised					
Revised					

3a. Additions

4. Construction Site Stormwater Runoff Control

BMP ID #	BMP Description	Responsible Dept./Person Name	Measurable Goal(s)	Progress on Goal(s) – Permit Year 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
4.1	Conservation Bylaw/Regulation Review	Conservation Commission/DNR	Necessary regulatory changes implemented	Goal met. Implementation of DEP Stormwater Standards, as appropriate, for projects under Conservation Commission jurisdiction.	Continue review and recommend additions/changes as new information becomes available.
Revised					

4.2	Subdivision Control review	Planning Board, Community Development Dept.(CDD), DNR	Necessary regulatory changes implemented	Goal met.	Continue review and recommend additions/changes as new information becomes available.
Revised					
4.3	Site Plan Review	Planning Board, CDD, DNR	Necessary regulatory changes implemented	Planning Board and CDD undertaking a complete re-write of the town's zoning bylaw. Proposed changes include revisions to site plan review; expected completion date TBD.	Re-program to year 16. Planning Board initiated review of needed changes late in Year 10 will continue into Year 16. Review as proposed bylaw changes are promulgated for comment.
Revised					
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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
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5.1	Conservation Bylaw/Regulation Review	Conservation Commission/DNR	Necessary regulatory changes implemented	Goal met.	Continue review and recommend additions/changes as new information becomes available.
Revised					
5.2	Subdivision Control Review	Planning Board, CDD, DNR	Necessary regulatory changes implemented	Goal met.	Continue review and recommend additions/changes as new information becomes available.
Revised					
5.3	Site Plan Review	Planning Board, CDD, DNR	Necessary regulatory changes implemented	Planning Board and CDD undertaking a complete re-write of the town's zoning bylaw. Proposed changes include revisions to site plan review; expected completion date TBD. Goal is dependent on community consensus on proposed zoning changes; this has been illusive so far.	Re-program to year 16. Planning Board initiated review of needed changes late in Year 10 will continue into Year 16. Review as propose bylaw changes are promulgated for comment.
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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 15
6.1	Catch Basin Cleaning	DPW	Clean/document 1/3 of town basins per year	Goal met.	Same as Year 15.
Revised					
6.2	Street Sweeping	DPW	Sweep/document roads once per year	Goal met.	Same as Year 15.
Revised					

6.3	Utilize Appropriate BMP's for All Municipal Projects	DHE, DPW, Building Maintenance	Document implementation	<p>Goal met, ongoing. Mitchell River Bridge replacement project completed incorporating stormwater BMPs (CHA-8).</p> <p>Muddy Creek Restoration Bridge Project, a cooperative project of the towns of Chatham and Harwich working cooperatively with MassDOT-Highway, USDA NRCS, and MA Div. of Ecological Restoration, completed incorporating stormwater BMPs (CHA-24).</p> <p>EPA grant funded nutrient removal stormwater BMP retrofit construction completed and system put on-line. EPA funded monitoring expected to begin in next reporting period.</p> <p>Oyster Pond Furlong BMPs installed as part of ongoing sewer installation projects.</p>	Continue implementation of BMP's and initiate design for new projects.
Revised					
6.4	Pet Waste Control	DNR, Animal Control	Expand/document Mutt Mitt program	Mutt Mitt program continues to be a success. The program has expanded as neighborhoods have joined the core program funded and maintained by the Town. The total number of Mutt Mitt dispenser locations in Chatham is now over 23. In excess of 50,000 Mutt Mitts were distributed in calendar year 2017.	Same as Year 15.

Revised					
6.5	Annual Training	DPW, DNR	Held annually/participation documented.	Staff attends training provided by third party organizations, MassDOT, professional organizations, etc. Staff attended multiple trainings provided by EPA, MA DEP, and other organizations on the new MS4 Permit.	Continued utilization of outside opportunities.
Revised					
Revised					

6a. Additions

6.6	Stormwater staff Education/Training	DPW, DNR	Document participation.	DNR Director chaired multiple meetings of Cape Cod town staff on the creation of a regional stormwater collaborative. Grant awards were received from 319 Program and local Land-use Planning Agency for Direct Local Technical Assistance (DLTA) funding to support regional efforts to form stormwater coalition. Draft Memorandum of Understanding developed and reviewed with Cape and Islands Selectmen's and Counselors Association.	Continue professional education as opportunities arise. Continued participation in development efforts for Cape Cod Stormwater Collaborative.
6.7	DPW Permit Filing	DPW	File for applicable Conservation Permits	Goal Met. DPW routinely files for applicable permits.	Continue to file as applicable.

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 15 (Reliance on non-municipal partners indicated, if any)	Planned Activities – Permit Year 16
7.1	No Discharge Area (NDA)	DHE	NDA enacted	Goal met. All Chatham near-shore and coastal waters now covered by “No Discharge Area” designation.	Ongoing public education. Operate and maintain vessel pump-out facilities.
Revised					
7.2	Comprehensive Wastewater Management Plan (CWMP)	DNR, Water & Sewer Advisory Committee, Water & Sewer Commissioners	CWMP completed. Town Meeting action to fund implementation.	Phases 1A, 1B, & 1C-1 of sewer expansion completed, and new Enhanced Nutrient Removal (ENR) treatment facility operation. Installation of sewer expansion Phase 1C-2 began during reporting period. Design of sewer expansion contracts 1C-3 to 1C-5 continued.	Complete engineering design for Phase 1C-3 to 1C-5 contracts, bid, and begin construction.
Revised					
7.3	Muddy Creek Restoration Bridge Project	DNR, DPW, MassDOT, Town of Harwich and other partners	Stormwater improvements implemented.	Project completed, including stormwater improvements that eliminate pre-existing direct discharge to waterway.	Continue water quality monitoring.
Revised					
Revised					

7a. Additions

7.3			Completed		
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7.4	Fertilizer Management	DHE	Implement fertilizer management BMPs	Implement Board of Health fertilizer regulation. Distribute educational flyer on fertilizer regulation. Work with Cape Cod Cooperative Extension on implementation of fertilizer applicator certification program.	Same as Year 15.
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7b. WLA Assessment

Part IV. Summary of Information Collected and Analyzed

The Town of Chatham was the first Massachusetts community to have nitrogen-loading thresholds (TMDLs) completed as part of MADEP’s Massachusetts Estuaries Project. The thresholds were incorporated into the town-wide Comprehensive Wastewater and Nutrient Management Planning Program. Final CWMP/Final EIR completed and approved; Phase 1A, 1B, & 1C-1 sewer expansions completed and new Enhanced Nutrient Removal (ENR) wastewater treatment facility completed and operational. Phase 1C-2 sewer installation begun and ongoing. Engineering design underway for Phase 1C-3 to 1C-5 contract sewer expansions, SRF and local funding appropriation obtained. Stormwater improvements are incorporated into all contracts as necessary.

Part V. Program Outputs & Accomplishments (OPTIONAL)

Programmatic

Stormwater management position created/staffed	(y/n)	1, collateral duty
Annual program budget/expenditures	(\$)	\$20,000*

*** Specific funding for Phase II implementation, in addition to DPW funding for routine drainage maintenance/improvements; proposed increase to \$50,000 in FY19 (beginning July 1, 2018) to support activities under new MS4 Permit.**

Education, Involvement, and Training

Estimated number of residents reached by education program(s)	(# or %)	
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.)	Yes
Household Hazardous Waste Collection Days		Yes
▪ days sponsored	(#)	6
▪ community participation	(%)	161 households.
▪ material collected	(tons or gal)	Approx. 21,097 pounds.
School curricula implemented	(y/n)	**

* Coordinate with Friends of Chatham Waterways and Pleasant Bay Alliance, local NGOs, on these type of activities.

** Support programs of Friends of Chatham Waterways and Pleasant Bay Community Boating which sponsor school educational programs.

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	(#)	30
System-Wide mapping complete	(%)	100
Mapping method(s)		
▪ Paper/Mylar	(%)	
▪ CADD	(%)	
▪ GIS	(%)	60
Outfalls inspected/screened	(# or %)	All, as part of shoreline sanitary surveys
Illicit discharges identified	(#)	
Illicit connections removed	(#) (est. gpd)	
% of population on sewer	(%)	Approx. 15
% of population on septic systems	(%)	85

Construction

Number of construction starts (>1-acre)	(#)	1 this reporting period
Estimated percentage of construction starts adequately regulated for erosion and sediment control	(%)	100
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)	1/3 OF TOWN PER YEAR
Average frequency of catch basin cleaning (commercial/arterial or other critical streets)	(times/yr)	1/3 OF TOWN PER YEAR
Total number of structures cleaned	(#)	400±
Storm drain cleaned	(LF or mi.)	600 L.F.

Qty. of screenings/debris removed from storm sewer infrastructure	(lbs. or tons)	10 tons
Disposal or use of sweepings (landfill, POTW, compost, recycle for sand, beneficial use, etc.)		COMPOST
Cost of screenings disposal	(\$)	

Average frequency of street sweeping (non-commercial/non-arterial streets)	(times/yr)	1
Average frequency of street sweeping (commercial/arterial or other critical streets)	(times/yr)	3
Qty. of sand/debris collected by sweeping	(lbs. or tons)	40 tons
Disposal of sweepings (landfill, POTW, compost, beneficial use, etc.)	(location)	COMPOST
Cost of sweepings disposal	(\$)	
Vacuum street sweepers purchased/leased	(#)	1
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	50 50
Pre-wetting techniques utilized	(y/n)	No, available but not used last winter
Manual control spreaders used	(y/n)	
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)	