



**Town of Chester, Connecticut**

**2017 Annual Report**

**General Permit for the Discharge of Stormwater  
from Small Municipal Separate Storm Sewer Systems**

**Permit Number GSM000058**

**MS4 General Permit**  
**Town of Chester 2017 Annual Report**  
**Existing MS4 Permittee**  
**Permit Number GSM 000058**  
**January 1, 2017 - December 31, 2017**

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This report documents the Town of Chester’s efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2017 to December 31, 2017.

**Part I: Summary of Minimum Control Measure Activities**

**1. Public Education and Outreach (Section 6 (a)(1) / page 19)**

**1.1 BMP Summary**

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
1-1 Implement Public Education and Outreach	To be Developed in early 2018	None in 2017 Before July 01, 2018 Eleven Clean Waters Starting in Your Home and Yard Fact Sheets prepared by a collaborative effort between the Connecticut Sea Grant Extension Program and the University of Connecticut Cooperative Extension System NEMO Program will be made available to the public. Before July 01, 2018 Ten NEMO Program Fact Sheets will be made available to the public.	Improving	Board of Selectmen, Lauren Gister/ First Selectwoman	July 01, 2018	Before July 01, 2018	

		Before July 01, 2018 Nine NEMO Technical Papers will be made available to land use commission members.					
1-2 Address Public Education and Outreach for Pollutants of Concern*	To Be Developed in 2018			Board of Selectmen/Lauren Gister, First Selectwoman	July 1, 2018		

**1.2 Describe any Public Education and Outreach activities planned for the next year, if applicable.**

**1.3 Details of activities implemented to educate the community on stormwater**

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.

## 2. Public Involvement/Participation (Section 6(a)(2) / page 21)

### 2.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan	Completed	A hard copy of the Draft 2017 Stormwater Management Plan (SMP) was made available to the public for review and comment on the town website:	Complied with requirements	Board of Selectmen/ Lauren Gister, First Selectwoman	April 03, 2017	The 2017 SMP was available to the public on April 20, 2017.	No public comments were received by the Office of the First Selectwoman
2-2 Comply with public notice requirements for Annual Reports	Will be completed	The Draft 2017 MS4 Annual Report will be made available for public review and comment at the Town Library.	Will comply with Requirements	Board of Selectmen/ Lauren Gister, First Selectwoman	Feb 15, 2018	The 2017 MS4 Annual Report will be made available to the public for review and comment.	

### 2.2 Describe any Public Involvement/Participation activities planned for the next year, if applicable.

Hold quarterly stormwater committee meetings to review SMP implementation progress.

### 2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes	04/20/2017	Town Website
Availability of Annual Report announced to public	Yes	02/16/2018	Town Website

### 3. Illicit Discharge Detection and Elimination (Section 6(a)(3) and Appendix B / page 22)

#### 3.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program	In Progress	A written IDDE program using the IDDE program template available from the CT DEEP is being developed.	Develop written plan of IDDE program	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2018	Anticipate completing by the deadline of July 01, 2018.	The Department of Public Works will most likely be the listed contact.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	MS4 stormwater outfall mapping was conducted in the Urbanized Area in 2005. The stormwater outfall mapping was compiled on a ESRI GIS layer. The MS4 stormwater outfall mapping will be updated to include impaired waters as contained in the State of Connecticut, Department of Energy and Environmental Protection 2016 Integrated Water Quality Report. The stormwater outfalls in the impaired waters will be identified. The MS4 stormwater outfall mapping will be completed town wide in 2018.	Development of an ESRI GIS map layer with MS4 stormwater outfalls.	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2019	Anticipate completing by the deadline of July 01, 2019.	
3-3 Implement citizen reporting program	In Progress	A program to allow the general public to report suspected illicit discharges is in the			July 01, 2017	Anticipate completing by July 01, 2018.	

		process of being set up. It is anticipated that the Department of Public Works will be the contact to accept citizen reporting of suspected illicit discharges.					
3-4 Establish legal authority to prohibit illicit discharges	In Progress	An Illicit Discharge Detection and Elimination Ordinance and Citation Hearing Procedure was provided to Lauren Gister, First Selectwoman	Enact IDDE Ordinance and Citation Hearing Procedure	Board of Selectmen/ Lauren Gister, First Selectwoman	July 01, 2018	Prior to July 01, 2018	
3-5 Develop record keeping system for IDDE tracking	To Be Developed			Board of Selectmen/ Lauren Gister, First Selectwoman	July 01, 2017		
3-6 Address IDDE in areas with pollutants of concern	To Be Developed			Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017		

**3.2 Describe any IDDE activities planned for the next year, if applicable.**

The written program will be posted to the Dept of Public works webpage and a link listed in next year's Annual Report; will update the written IDDE program as needed throughout the permit term.

Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process

**3.3 List of citizen reports of suspected illicit discharges received during this reporting period.**

Date of Report	Location / suspected source	Response taken

**3.4 Provide a record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period using the following table. The Town of Chester has no SSOs**

Location (Lat long/ street crossing /address and receiving water)	Date and duration of occurrence	Discharge to MS4 or surface water	Estimated volume discharged	Known or suspected cause / Responsible party	Corrective measures planned and completed (include dates)	Sampling data (if applicable)

**3.5 Briefly describe the method used to track illicit discharge reports, responses to those reports, and who was responsible for tracking this information.**

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**3.6 Provide a summary of actions taken to address septic failures using the table below.**

Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known

**3.7 IDDE reporting metrics**

Metrics	
Estimated or actual number of MS4 outfalls	TBD

Estimated or actual number of interconnections	TBD
Outfall mapping complete	25%
Interconnection mapping complete	0%
System-wide mapping complete (detailed MS4 infrastructure)	25%
Outfall assessment and priority ranking	0%
Dry weather screening of all High and Low priority outfalls complete	0%
Catchment investigations complete	0%
Estimated percentage of MS4 catchment area investigated	10%

**3.8 Briefly describe the IDDE training for employees involved in carrying out IDDE tasks including what type of training is provided and how often is it given (minimum once per year).**

The Department of Public Works will be provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination Manual, A Handbook for Municipalities*, Published January 2003 by the New England Interstate Water Pollution Control Commission.

The Department of Public Works will be provided with a copy of the publication entitled *Illicit Discharge Detection and Elimination, A Guidance Manual for Program Development and Technical Assessments, and Technical Appendices* Published October 2004 by the Center for Watershed Protection and Robert Pitt of the University of Alabama.



## 4. Construction Site Runoff Control (Section 6(a)(4) / page 25)

### 4.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 General Permit	To be Initiated in 2018	Not Applicable	Not Applicable	Board of Selectmen/ Land Use Commission Members	July 1, 2019		
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, prepares land use review letters for most applications for the Inland Wetlands Commission, Planning Commission and Zoning Commission.	Interdepartmental Coordination	Land Use Commissions/ Commission Members	July 01, 2017	Ongoing	
4-3 Review site plans for stormwater quality concerns	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, encourages the use of LID BMPs as contained in the 2004 Connecticut Stormwater Quality Manual.	Compliance	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	Ongoing	
4-4 Conduct site inspections	Ongoing	The town conducts construction site inspections for proper implementation and maintenance of soil erosion and sediment control measures.	Compliance with Approved Plans	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	Ongoing	
4-5 Implement procedure to allow public comment on site development	Ongoing	The land use application process allows for public comment on land use applications which are submitted to the Inland Wetlands Agency and the Planning & Zoning		Land Use Department	July 01, 2017	Ongoing	

		Commission during the Public Hearing Process when applicable.					
4-6 Implement procedure to notify developers about the CT DEEP Construction Stormwater General Permit	Ongoing	Since the inception of the MS4 program Nathan L. Jacobson & Associates, Inc., Town Engineer, has made developer's engineers aware of the need to register for the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities in engineering review letters which are typically prepared as part of the land use application process.	Awareness of the need to register for the General permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities	Land Use Department/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	Ongoing	

**4.2 Describe any Construction Site Runoff Control activities planned for the next year, if applicable.**

## 5. Post-construction Stormwater Management (Section 6(a)(5) / page 27)

### 5.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Under Development	The land use regulations will be revised to incorporate the requirements contained in Minimum Control Measure No. 4 – Construction Site Runoff Control and Minimum Control Measure No. 5 – Post-Construction Runoff Control.	The requirements contained in Minimum Control Measure No. 4 – Construction Site Runoff Control and Minimum Control Measure No. 5 – Post-Construction Runoff Control will be forwarded to the First Selectwoman.		July 01, 2021		
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects				Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2019		
5-3 Identify retention and detention ponds in priority areas		Retention Ponds, Detention Ponds and Hydrodynamic Separators will be inventoried. A GIS Map Layer will be created after the inventory. Part of the inventory process will be facility maintenance requirements.		Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2019		

5-4 Implement long-term maintenance plan for stormwater basins and treatment structures		After the Retention Ponds, Detention Ponds and Hydrodynamic Separators have been inventoried a long term Operation and Maintenance Plan will be implemented.		Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2019		
5-5 DCIA mapping	Starting	Begin the process of DCIA Mapping from base mapping prepared by UConn CLEAR.	The DCIA to MS4 stormwater outfalls discharging to waters identified as impaired in the 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will start in 2018.	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2020		
5-6 Address post-construction issues in areas with pollutants of concern			Stormwater outfalls discharging to waters identified as impaired in the 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will be subject to enhanced water quality treatment.	Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	Not specified		

**5.2 Describe any Post-Construction Stormwater Management activities planned for the next year, if applicable.**

**5.3 Post-Construction Stormwater Management reporting metrics**

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	Acreege to be determined in 2018
DCIA disconnected (redevelopment plus retrofits)	0 acres this year / 0 acres since 2012
Retrofits completed	0
DCIA disconnected	0% this year / 0% total since 2012
Estimated cost of retrofits	\$0
Detention or retention ponds identified	0 this year / 0 total

**5.4 Briefly describe the method to be used to determine baseline DCIA.**

The DCIA Mapping will be conducted on accordance with the methodologies presented in the October 25, 2017 UConn CLEAR Webinar entitled *CT MS4 Mapping Details, Clarifications and Tools* utilizing DCIA base mapping prepared by UConn CLEAR.

Impaired waters were determined from the report entitled *2016 Integrated Water Quality Report*, dated April 2017, prepared by the State of Connecticut Department of Energy and Environmental protection.

## 6. Pollution Prevention/Good Housekeeping (Section 6(a)(6) / page 31)

### 6.1 BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date	Additional details
6-1 Develop/implement formal employee training program				Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	July 01, 2017	
6-2 Implement MS4 property and operations maintenance	Ongoing		Continuing	Department of Public Works/ John Divis, Road Foreman	July 01, 2018	July 01, 2017	
6-3 Implement coordination with interconnected MS4s	Ongoing	The Town of Chester continued to coordinate MS4 responsibilities with the Town of Haddam, the Town of Killingworth and the Town of Deep River	Continuing	Department of Public Works/ John Divis, Road Foreman	July 01, 2017	July 01, 2017	
6-4 Develop/implement program to control other sources of pollutants to the MS4				Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	Not specified		
6-5 Evaluate additional measures for discharges to impaired waters*				Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	Not specified		
6-6 Track projects that disconnect DCIA				Board of Selectmen/ Nathan L. Jacobson & Associates, Inc., Town Engineer	Jul 1, 2017		

6-7 Implement infrastructure repair/rehab program				Department of Public Works/ John Divis, Road Foreman	July 01, 2021		
6-8 Develop/implement plan to identify/prioritize retrofit projects				Department of Public Works/ John Divis, Road Foreman	July 01, 2020		
6-9 Implement retrofit projects to disconnect 2% of DCIA				Department of Public Works/ John Divis, Road Foreman	July 01, 2022		
6-10 Develop/implement street sweeping program	Ongoing	The Town of Chester currently implements a road sweeping program whereby all town roads are swept at one time per year.		Department of Public Works/ John Divis, Road Foreman	July 01, 2017		
6-11 Develop/implement catch basin cleaning program	Ongoing	The Town of Chester currently implements a catch basin cleaning program whereby all catch basins south of I-95 and north of I-95 are cleaned in alternate years.		Department of Public Works/ John Divis, Road Foreman	July 01, 2020		
6-12 Develop/implement snow management practices				Department of Public Works/ John Divis, Road Foreman	July 01, 2018		

**6.2 Describe any Pollution Prevention/Good Housekeeping activities planned for the next year, if applicable.**

### 6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	To be initiated in 2018
Street sweeping	
Lane miles swept	60.98
Volume (or mass) of material collected	2017 Undetermined Will be Measured in 2018
Catch basin cleaning	
Total catch basins in priority areas	TBD
Total catch basins in MS4	500±
Catch basins inspected	500±
Catch basins cleaned	500± 100+ Headwalls
Volume (or mass) of material removed from all catch basins	Undetermined
Volume removed from catch basins to impaired waters (if known)	2017 Undetermined Will be Measured in 2018
Snow management	
Type(s) of deicing material used	Deicing Mix Majority of Town 4 Parts Sand to 1 Part NaCl Salt Downtown Area Ice B' Gone Pretreated NaCl
Total amount of each deicing material applied	lbs or tons
Type(s) of deicing equipment used	Two Large Snow Plows/Spreaders One Medium Snow Plow/Spreader are Three Small Snow Plows/Spreaders All Spreaders are manually controlled at an estimated



	application rate 150-200 pounds per lane (curb) mile
Lane-miles treated	119.4
Snow disposal location	
Staff training provided on application methods & equipment	No
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 %
Reduction in turf area (since start of permit)	0 acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	\$0

#### 6.4 Catch Basin Cleaning Program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule. [\[Complete this section for the 2017 Annual Report only\]](#)

It is estimated that there are approximately 500 catch basins and more than 100 headwalls in the Town of Chester. All of the catch basin and headwalls were cleaned in 2017. Currently no optimization methods are required.

#### 6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. [\[Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.\]](#)

Storm Drainage Retrofit prioritization will be given to stormwater outfalls that are known to result in soil erosion and sedimentation. Prioritization will be given to the outfalls within the impaired water drainage basins with particular emphasis placed on stormwater outfalls which are located on fine grained glacial till soils. The retrofit program will be prioritized based on setback distance from watercourse and/or waterbodies.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years. [\[Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.\]](#)

Based on information contained in the Factsheet: *Town of Chester Water Quality and Stormwater Summary*, prepared by the CT DEEP, 633.67 acres of the town has an impervious area exceeding 11% which is approximately 5.90% of the town. 185.65 acres have an impervious cover of ranging from 12% to 25%, 289.68 acres have an impervious cover ranging from 26% to 50%, 121.65 acres have an impervious cover ranging from 51% to 75% and 36.69 acres have an impervious cover ranging from 76% to 100%.

The DCIA for the town will be computed using methods contained in the paper entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit*.

Land use files will be reviewed to determine disconnection of DCIA since July 01, 2012 for utilization in reaching the CT DEEP goal of 2% disconnection of DCIA by June 30, 2022.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years. [\[Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.\]](#)

**Part II: Impaired waters investigation and monitoring [This section required beginning with 2018 Annual Report]**

**1. Impaired waters investigation and monitoring program**

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution. This data is available on the MS4 map viewer: <http://s.uconn.edu/ctms4map>.

Nitrogen/ Phosphorus       Bacteria       Mercury       Other Pollutant of Concern

**1.2 Describe program status.**

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

**2. Screening data for outfalls to impaired waterbodies (Section 6(i)(1) / page 41)**

**2.1 Screening data collected under 2017 permit**

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year’s screening data showing a cumulative list of outfall screening data.

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?

**2.2 Credit for screening data collected under 2004 permit**

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.

Outfall	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?



**Part III: Additional IDDE Program Data [This section required beginning with 2018 Annual Report]**

**1. Assessment and Priority Ranking of Catchments data (Appendix B (A)(7)(c) / page 5)**

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank

**2. Outfall and Interconnection Screening and Sampling data (Appendix B (A)(7)(d) / page 7)**

**2.1 Dry weather screening and sampling data from outfalls and interconnections**

Provide sample data for outfalls where flow is observed. Only include Pollutant of concern data for outfalls that discharge into stormwater impaired waterbodies.

Outfall / Interconnection ID	Screening / sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or enterococcus	Surfactants	Water Temp	Pollutant of concern	If required, follow-up actions taken

## 2.2 Wet weather sample and inspection data

Provide sample data for outfalls and key junction manholes of any catchment area with at least one System Vulnerability Factor.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern

## 3. Catchment Investigation data (Appendix B (A)(7)(e) / page 9)

### 3.1 System Vulnerability Factor Summary

For those catchments being investigated for illicit discharges (i.e. categorized as high priority, low priority, or problem) document the presence or absence of System Vulnerability Factors (SVF). If present, report which SVF's were identified. An example is provided below.

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;



**Part IV: Certification**

"I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that, based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that a false statement made in this document or its attachments may be punishable as a criminal offense, in accordance with Section 22a-6 of the Connecticut General Statutes, pursuant to Section 53a-157b of the Connecticut General Statutes, and in accordance with any other applicable statute."

Chief Elected Official or Principal Executive Officer	Document Prepared by
Print Name: Lauren Gister, First Selectwoman	Print Name: Wade M. Thomas
 Signature / Date: November 28, 2018	 Signature / Date: November 28, 2018