



April 1, 2019

Anchor 261-37

Central Permit Processing Unit  
Department of Energy & Environmental Protection  
79 Elm Street  
Hartford, CT 06106-5127



**Re: Town of Waterford  
MS4 General Permit No. GSM000023  
2018 Annual Report**

To Whom It May Concern:

Our client, the Town of Waterford, has asked that we transmit this 2018 MS4 General Permit Annual Report Transmittal Form and review fee directly to the Department.

Enclosed is check for \$187.50, the Transmittal Form, and the 2018 Annual Report for the review for the *GENERAL PERMIT for the DISCHARGE of STORMWATER from SMALL MUNICIPAL SEPARATE STORM SEWER SYSTEMS*.

Please do not hesitate to contact us should you wish to discuss the above.

Sincerely,

T.J. Therriault, EIT, CDT  
Associate



Connecticut Department of  
Energy & Environmental Protection  
Bureau of Materials Management & Compliance Assurance  
Water Permitting & Enforcement Division

## MS4 Annual Report Transmittal Form

### For the General Permit to Discharge Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)

Print or type unless otherwise noted. Please submit this completed transmittal form, fee, and the MS4 Annual Report as indicated at the end of this form.

CPPU USE ONLY

App #: \_\_\_\_\_

Doc #: \_\_\_\_\_

Check #: \_\_\_\_\_

Program: Stormwater Permits

### Part I: Annual Report General Information

1. Reporting Period (Calendar Year): <u>2018</u>	
2. Provide the registration number for the existing general permit registration: <u>GSM000023</u>	
<b>3. Registrant Type (check one):</b>	<b>Fees</b>
<input type="checkbox"/> state institution/agency	\$375.00 [713]
<input type="checkbox"/> federal institution/agency	\$375.00 [713]
<input checked="" type="checkbox"/> municipality	\$187.50 [713] Check No. 29204
4. Municipality name or Municipality name where institution is located: <u>Town of Waterford</u>	
The annual report will not be processed without the fee. The fee shall be non-refundable and shall be paid by check or money order to the Department of Energy and Environmental Protection (DEEP) or by such other method as the commissioner may allow.	

### Part II: Registrant Information

1. Registrant (Name of Municipality or State or Federal Institution/Agency): <u>Town of Waterford</u>	
Mailing Address: <u>15 Rope Ferry Road</u>	
City/Town: <u>Waterford</u>	State: <u>CT</u> Zip Code: <u>06385</u>
Business Phone: <u>(860) 444-5834</u>	ext.: _____
Contact Person: <u>Brian Long</u>	Phone: <u>860-444-5864</u> ext. _____
*E-mail: <u>blong@waterfordct.org</u>	
*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.	

## Part II: Registrant Information (continued)

### 2. Billing contact, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

E-mail:

### 3. Primary contact for departmental correspondence and inquiries, if different than the registrant.

Name:

Mailing Address:

City/Town:

State:

Zip Code:

Business Phone:

ext.:

Contact Person:

Phone:

ext.

\*E-mail:

\*By providing this e-mail address you are agreeing to receive official correspondence from DEEP, at this electronic address, concerning the subject registration. Please remember to check your security settings to be sure you can receive e-mails from "ct.gov" addresses. Also, please notify DEEP if your e-mail address changes.

### 4. Engineer(s) or other consultant(s) employed or retained to assist in preparing the annual report.

☐

Check here if additional sheets are necessary, and label and attach them to this sheet.

Name: **Anchor Engineering Services, Inc.**

Mailing Address: 41 Sequin Drive

City/Town: Glastonbury

State: CT

Zip Code: 06333

Business Phone: 860-633-8770

ext.:

Contact Person: T.J. Therriault

Phone: 860-633-8770

ext.

E-mail: tjtherriault@anchorenger.com

Service Provided: **Report preperation**

5. ☐ Check here if there are adjacent towns or other entities with which implementation of the Stormwater Management Plan is coordinated for a portion of the subject MS4. If so, provide the names of such towns or entities: \_\_\_\_\_

### Part III: Registrant Certification

The registrant *and* the individual(s) responsible for actually preparing the annual report must sign this part. [If the registrant is the preparer, please mark N/A in the spaces provided for the preparer.]

"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 the individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief.



I certify that this annual report transmittal is on complete and accurate forms as prescribed by the commissioner without alteration of the text.

I certify that the following public notice requirements have been met.

☒ **Annual Report Availability:** At least forty-five (45) days prior to submission of each Annual Report to DEEP, pursuant to Section 4(d)(3) of the MS4 General Permit, each permittee shall make available for public review and comment a draft copy of the complete Annual Report. Comments on the Annual Report may be made to the permittee and are *not* submitted to DEEP. Reasonable efforts to inform the public of this document shall be undertaken by the permittee. Such draft copies shall be made available electronically on the permittee's website for public inspection and copying, consistent with the federal and state Freedom of Information Acts, and shall be made available, at a minimum, at one of the following locations: the permittee's main office or other designated municipal or institution office, a local library or other central publicly available location. Following submission of the Annual Report to DEEP, a copy of the final report shall be made available for public inspection during regular business hours.

I understand that a false statement in the submitted information may be punishable as a criminal offense, in accordance with section 22a-6 of the General Statutes, pursuant to section 53a-157b of the General Statutes, and in accordance with any other applicable statute.

I also certify that the signature of the registrant, or a duly authorized representative, being submitted herewith complies with section 22a-430-3(b)(2)(B) of the Regulations of Connecticut State Agencies.

	<b>4/1/2019</b>
Signature of Chief Elected official or Principal Executive Officer	Date
<b>Daniel M. Steward</b>	<b>First Selectman</b>
Printed Name of Chief Elected official or Principal Executive Officer	Title (if applicable)
	<b>4/1/2019</b>
Signature of Preparer (if different than above)	Date
<b>T.J. Therriault - Anchor Engineering Services</b>	<b>Associate</b>
Printed Name of Preparer	Title (if applicable)

Note: Please submit 1) this completed Transmittal Form and the Fee to:

CENTRAL PERMIT PROCESSING UNIT  
DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION  
79 ELM STREET  
HARTFORD, CT 06106-5127

2) a copy of this completed Transmittal Form and the Annual Report electronically to the following email address: [DEEP.StormwaterStaff@ct.gov](mailto:DEEP.StormwaterStaff@ct.gov).

Refer to [www.ct.gov/deep/municipalstormwater](http://www.ct.gov/deep/municipalstormwater) for information on Annual Report Templates or other additional information concerning the MS4 General Permit.

In the event that electronic submission is not available or possible, please contact the Stormwater Section at 860-424-3025.

ANCHOR ENGINEERING SERVICES, INC.

29204

Check Date: 4/1/2019

Invoice Number	Date	Voucher	Amount	Discounts	Previous Pay	Net Amount
20190401_Waterford	4/1/2019	0000021809	\$187.50			\$187.50
Department of Energy & Environmental			TOTAL			\$187.50
Checking Account	2	CTDEP				

CT Dept of Energy & Environmental Protection  
Central Permit Processing Unit

APR 01 2019

RECEIVED BY



MS4 General Permit  
Town of Waterford 2018 Annual Report  
Existing MS4 Permittee  
Permit Number GSM000023  
January 1, 2018 – December 31, 2018

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This report documents the Town of Waterford's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2018 to December 31, 2018.

*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 / projected	Additional details
1-1 Implement public education and outreach	Complete	Link was created for accessing the Town's Stormwater Regulations website. Links were added discussing Stormwater & Water Quality, Impervious Cover, Urban Runoff, the NPDES Program and Save the Sound. Planning & Development and Recreation & Parks added a webpage link to the Stormwater. Informational material is also present at Town offices.	Continue distributing educational brochures as bill inserts, mailings, and fact sheets at town offices and with building permits, and on the town website.	Department of Public Works	Jul 1, 2018	Mar 23, 2018 On-going	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed / projected	Additional details
1-2 Address education/ outreach for pollutants of concern*	Complete	Weblinks regarding nitrogen, phosphorus, turbidity and bacteria were added to the Stormwater website.	Develop and Distribute Information on Nitrogen and Bacteria Pollution	Department of Public Works	Jul 1, 2018	June 8, 2018	
1-3 Town Website	Complete	Public educational documents have been made available on the Town's Stormwater webpage. The SMP and draft Annual Report were added to the webpage. A link has been added for the Construction Stormwater General Permit to the webpage.	Update website to include additional stormwater information.	Department of Public Works	Jan 2018	Mar 23, 2018	
1-4 Catch Basin Stenciling/Badges	In Progress	Highest priority 10% and an additional 20% have been stenciled.	Continue an on-going stenciling program in which basins in Town are prioritized and stenciled.	Department of Public Works	N/A	On-going	The Town will be reaching out to volunteer groups for continuing the stenciling program
1-5 Household Hazardous Waste Collection Days	Complete	HHW Collections Days was conducted.	Continue program in an effort to remove household hazardous waste safely from the waste stream using a Qualifying Local Program	Department of Public Works	Annually	Apr 7, 2018 On-going	SCRRA provided fliers.

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

- Continue to update the Town's Stormwater webpage with new/updated stormwater related information
- Continue distributing educational brochures as bill inserts, mailings, and fact sheets at town offices
- Coordinate efforts with local schools for presentation on stormwater management
- Continue to coordinate HHW program
- Continue the catch basin stenciling/badges program

### 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
Stormwater Management website was created	General Public	Stormwater runoff	All	Department of Public Works
Link for information on Household Hazardous Waste was added to the Public Works webpage	General Public	HHW Disposal	All	Department of Public Works
Links were added to the Stormwater Regulations website that discuss the following areas: Stormwater & Water Quality, Impervious Cover, Urban Runoff, the NPDES Program and Save the Sound.	General Public	General stormwater management topics	All	Department of Public Works



## 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 / projected	Additional details
2-1 Comply with public notice requirements for the Stormwater Management Plan and Annual Report	Complete	Notice of the SMP was published in The Day newspaper and on Town's Stormwater website. Notice of the and draft Annual Report was posted on the Town's website.	Notify public of published SMP and draft Annual Report and document comments received.	Department of Public Works	SMP Apr 3, 2017  Annual Report Feb 15, 2019	SMP April 1, 2017  Annual Report Feb 19, 2019	
2-2 Community Group Engagement	Complete	The Town continued to work with the Niantic River Watershed Coalition, Save the River-Save the Hills, NEIWPCC and Eastern CT Conservation District.	Identify and reach out to local organizations that may want to participate in review and implementation of this SMP.	Department of Public Works	Feb 15, 2018	On-going	The Niantic River Watershed Day held 9/27/18, for area high school students to learn about cause of water pollution. NEIWPCC began a pilot community social marketing campaign on reducing fertilizer application, including garbage container stickers.
2-3 Interagency Meetings	Complete	A meeting was held in the spring with Public Works and Planning & Development.	Continue to facilitate a panel of staff and volunteers.	Department of Public Works	Annually in Spring	Mar, 23 2018	

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

- Continue to provide notice of updated SMPs and draft Annual Reports
- Continue to engage Community Groups

## 2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes	April 1, 2017	The Day, Planning & Development and Town Clerk's Offices, Department of Public Works Complex, the Library and <a href="http://www.waterfordct.org/sites/waterfordct/files/file/file/20170912_waterford_bmp_smp_2017.pdf">http://www.waterfordct.org/sites/waterfordct/files/file/file/20170912_waterford_bmp_smp_2017.pdf</a>
Availability of Annual Report announced to public	Yes	Feb 19, 2019	Planning & Development and Town Clerk's Offices, Department of Public Works Complex, the Library and <a href="https://www.waterfordct.org/sites/waterfordct/files/pages/20190218_waterford_ms4_annual_report_draft.pdf">https://www.waterfordct.org/sites/waterfordct/files/pages/20190218_waterford_ms4_annual_report_draft.pdf</a>

## 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 / projected	Additional details
3-1 Develop written IDDE program	In Progress	The Town is in the process of finalizing its IDDE program.	Development and implement an IDDE Program	Department of Public Works	Jul 1, 2018	Jul 1, 2019	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed / projected	Additional details
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	All outfalls 15" or larger have been mapped in areas with sewers throughout the Town and outfalls larger than 12" inches have been mapped in urbanized areas.	Finalize mapping of all MS4 Outfalls	Department of Public works	Jul 1, 2019	Jul 2, 2019	The Town is conducting efforts to locate additional outfalls in priority areas that were not previously identified.
3-3 Develop citizen reporting program	In Progress	Currently, citizens can call the Department of Public Works to report any activities. Updated system will be developed to include use of <i>Municipality Software</i> .	Develop an online method for citizens to report spills and illicit dischargers	Department of Public Works	Jul 1, 2017	Jul 1, 2019	The Town is adding an email and phone contact the stormwater page for reporting illicit discharges.
3-4 Establish legal authority to prohibit illicit discharges	In Progress	Current ordinance generally meets requirements. The Town reviewed its ordinance against the template provided by UConn CLEAR and will be making slight changes to be more consistent with the template.	Review and update ordinances.	Department of Public Works	Jul 1, 2018	Jul 1, 2019	
3-5 Develop record keeping system for IDDE tracking	In Progress	The Town started to develop a recording system for IDDE tracking using the <i>Municipality Software</i> .	Record illicit discharge abatement activities. Develop and maintain an SSO inventory.	Department of Public Works	Jul 1, 2017	Jul 1, 2019	
3-6 Address IDDE in areas with pollutants of concern	In Progress	Began identifying areas where structures are that are not connected to sanitary sewer system and are located near the MS4.	Identify which areas in Town are most likely to contribute nitrogen phosphorous, and bacteria to the MS4 (IDDEs).	Department of Public Works	Jun 2020	On-going	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed / projected	Additional details
3-7 Map MS4 System in Priority Areas	In Progress	Began mapping outfalls, catch basins and piping in priority areas.	Map Priority Areas	Department of Public Works	Jun 2022	On-going	

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

- Finalize written IDDE Program
- Post IDDE Program to the Stormwater webpage and include link in next year's Annual Report
- Post an Illicit Discharge Reporting link on the Stormwater webpage
- Continue updating the MS4 outfall and system mapping
- Maintain master IDDE tracking system and ensure all employees involved in IDDE program understand the logging process
- Investigate illicit discharges in areas with pollutants of concern

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

Date of Report	Location / suspected source	Response taken
2/7/2018	4 Pond Edge	Public Works responded to the report and corrected the issue accordingly
2/7/2018	2 Waterview	Public Works responded to the report and corrected the issue accordingly
2/16/2018	48 Goshen Rd.	Public Works responded to the report and corrected the issue accordingly

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.

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)
No illicit discharges were reported during 2018						
No SSOs were reported from 2012 through 2018						

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

- The Town will be tracking reports and responses using the *Municipity Software* program.

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
409 Mohegan Ave Pkwy; septic system failure	Action initiated by septic installer and repair completed in December 2018	UKN

### 3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	163
Estimated or actual number of interconnections	UNK
Outfall mapping complete	75%
Interconnection mapping complete	0%
System-wide mapping complete (detailed MS4 infrastructure)	30%
Outfall assessment and priority ranking	0%
Dry weather screening of all High and Low priority outfalls complete	123 of 163
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	0%

### 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).

- An MS4 and IDDE training program was developed for presentation to all Town personnel that may come into contact with stormwater or that may review applications and plans that impact stormwater quality. This training will be conducted on an annual basis, or as needed when new employees are added. The training program was conducted on March 6, 2019 for members of Public Utility, Board of Education, Department of Public Works, Parks and Recreation, Police Department, and Fire Department.

#### 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/ projected	Additional details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Complete	P&Z updated the Subdivision and Zoning Regulations to incorporate LID, green infrastructure, and stormwater design requirements.	Review and update the regulations to be consistent with the requirements of the permit.	Planning	Jul 1, 2019	April 2018	
4-2 Develop/ Implement plan for interdepartmental coordination in site plan review and approval	Complete	Site applications are forwarded to Town Officials for review and comment during application process. Plans are not signed by commission until all departments have signed off on project plan.	Document Current Procedure	Planning	Jul 1, 2017	Jul 1, 2017 On-going	
4-3 Review site plans for stormwater quality concerns	Complete	Commercial and residential site plans involving greater than 0.5 acre of land disturbance were reviewed for stormwater quality control measures.	Continue to review all design plans for consistency with town and state guidelines for erosion and sediment control.	Planning	Jul 1, 2017	Jul 1, 2017 On-going	Application review checklists have been revised to include stormwater management regulation requirements

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
4-4 Conduct site inspections	Complete	Zoning and Inland Wetland enforcement staff verify site development practices are in accordance with approved plans. Planning staff employ an inspection checklist to document compliance and to identify measures requiring repair/additional control measures. Inspections occur after every significant rainfall event.	Document Inspections Performed Continue existing program of construction inspections.	Planning	Jul 1, 2017	Jul 1, 2017 On-going	
4-5 Implement procedure to allow public comment on site development	Complete	All agendas and minutes are noticed in compliance with State requirements for public notice. Public hearings announced in newspaper. Complaints regarding land-disturbance are forwarded to Planning and Development Department	Document Public Comments	Planning	Jul 1, 2017	Jul 1, 2017	



BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	In Progress	Town agencies notify developers of stormwater requirements. When applicable, developers submit notification of registration to State. P&Z application checklist was revised to require applicant's determination if a Construction Stormwater GP is required.	Update application forms to include determining if Construction Stormwater GP is required. Updated webpage.	Planning	Jul 1, 2017	Jul 1, 2019	A note will be added to the website regarding need for a Construction Stormwater GP.

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

- Add a standard note to the Town's website to notifying applicants of the requirements pertaining to the Construction Stormwater General Permit.

### 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/ projected	Additional details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Complete	P&Z updated the Subdivision and Zoning Regulations to incorporate LID, green infrastructure, and stormwater design requirements.	Review and update the regulations to be consistent with the requirements of the Permit.	Planning	Jul 1, 2021	April 2018	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Complete	Section 25.6 Stormwater Management regulations require LID, run-off control and stormwater treatment to the maximum extent practicable for all new development >0.5 acre.	Review current regulations to identify and, where appropriate, reduce or eliminate existing regulatory barriers to implementation of LID and runoff reduction practices to the MEP.	Planning	Jul 1, 2019	April 2018 On-Going	
5-3 Identify retention and detention ponds in priority areas	Complete	The Town has identified all of their retention/ detention ponds.	Inventory Town retention/ detention ponds	Department of Public Works	Jul 1, 2019	Mar 23, 2018	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Complete	Inspection reports and water quality monitoring for stormwater and treatment basins were completed. Town maintains an inventory of required stormwater management control practices for completed site developments. Documentation of inspection and maintenance of stormwater treatment is requested as part of land use and building permit approvals. Town employees receive instruction on maintenance for rain gardens, stormwater detention /treatment systems.	Develop a maintenance plan for retention/ detention ponds and stormwater treatment structures that it owns or over which it holds an easement or other authority and that are located in the Permittee's priority areas to ensure their long-term effectiveness.	Planning	Jul 1, 2019	Feb 15, 2018	All basins and structures are maintained at least annually.
5-5 DCIA mapping	In Progress	The Town is using the impervious cover layer available to begin to calculate the DCIA.	Calculate DCIA	Department of Public Works	Jul 1, 2020	Jul 1, 2020	
5-6 Address post-construction issues in areas with pollutants of concern	Not Started	None	Document issues identified and address. Prioritize areas for the DCIA retrofit program under MCM-6	Department of Public Works	Not specified	On-going	

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

- Work on calculating the Town's DCIA.

## 5.3 Post-Construction Stormwater Management reporting metrics

Metrics		
Baseline (2012) Directly Connected Impervious Area (DCIA)	Unknown	acres
DCIA disconnected (redevelopment plus retrofits)	Unknown	acres this year / acres total
Retrofits completed	Unknown	#
DCIA disconnected	TBD	% this year / % total since 2012
Estimated cost of retrofits	Unknown	\$
Detention or retention ponds identified	9	# total

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

- Available mapping and calculations provided by UConn CLEAR will be used to estimate DCIA.

## 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/ projected	Additional details
6-1 Develop/ implement formal employee training program	In Progress	Training program has been developed and a training was conducted on March 6, 2019.	Track Town employee training	DPW, Parks and Rec., Utility Commission, Waterford Buildings and Grounds, and Waterford BOE.	Jul 1, 2017	Mar 6, 2019 On-going	
6-2 Implement MS4 property and operations maintenance	Complete	Salt piles are stored under cover and on impervious surfaces. Town industrial stormwater discharges are monitored. Vehicle maintenance is performed undercover.	Continue the pattern of MS4 property and operations maintenance in accordance with the Permit.	Depart of Public Works, Police Depart, Fire Depart, Board of Ed, Parks and Rec	Jul 1, 2018	Jul 1, 2017 On-going	The Town is reviewing current practices and looking for areas for optimization.
6-3 Implement coordination with interconnected MS4s	In Progress	Through the outfall identification process, the Town has identified several interconnections with the neighboring towns/cities.	Coordinate pollution prevention activities with interconnected MS4s.	Department of Public Works	Not specified	On-going	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
6-4 Develop/ implement program to control other sources of pollutants to the MS4	In Progress	None	Develop and implement a program to control the contribution of pollutants to the MS4.	Department of Public Works	Not specified		The Town is planning on sending out notices to industrial facilities not registered under the DEEP's Industrial Stormwater General Permit.
6-5 Evaluate additional measures for discharges to impaired waters*	In Progress	None	Identify potential project locations.	Department of Public Works	Not specified		
6-6 Track projects that disconnect DCIA	In Progress	The Town is using a tracking table for creating an inventory of DCIA disconnect projects.	Annually track acreage of DCIA disconnected as a result of redevelopment/ retrofit projects within the Town.	Department of Public Works	Jul 1, 2017	Jul 1, 2019 On-going	There has not been much new or redevelopment in the Town since 2012.
6-7 Implement infrastructure repair/rehab program	In Progress	None	Identify MS4 structures to repair, rehabilitate, or upgrade to reduce pollutant discharge.	Department of Public Works	Jul 1, 2021	Jul 1, 2021	
6-8 Develop/ implement plan to identify/prioritize retrofit projects	In Progress	None	Develop a retrofit project plan to identify and prioritize DCIA connection projects	Department of Public Works	Jul 1, 2020	Jul 1, 2020	

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
6-9 Implement retrofit projects to disconnect 2% of DCIA	In Progress	None	Implement retrofit projects	Planning	Jul 1, 2022	Jul 1, 2022	
6-10 Develop/ implement street sweeping program	Complete	All Town-owned roads are swept every year, starting after the last snow melt.	Continue sweeping all streets at least once per year, as soon as possible after snowmelt.	Department of Public Works	Jul 1, 2017	Jul 1, 2017 On-going	The Town is reviewing current practices and looking for areas for optimization.
6-11 Develop/ implement catch basin cleaning program	In Progress	The Town cleans approximately 1/3 of all of the catch basins annually.	Continue current maintenance program in accordance with the Permit.	Department of Public Works	Jul 1, 2020	Jul 1, 2019 On-going	The Town is reviewing current practices and looking for areas for optimization.
6-12 Develop/ implement snow management practices	Complete	DEEP Guidelines on snow management provided to Town. The Town streets and municipal lots were plowed, as necessary. Roads were treated with salt (no sand), as necessary.	Develop/implement snow management practices	Department of Public Works	Jul 1, 2018	Jul 1, 2017 On-going	The Town is reviewing current practices and looking for areas for optimization.

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

- Continue to conduct annual MS4 training programs.
- Review current MS4 property and operations maintenance practices and look for areas for optimization.
- Continue tracking projects that disconnect DCIA.
- Review current practices street sweeping practices and look for areas for optimization.
- Review current snow management practices and look for areas for optimization.
- Identify areas where pet waste receptacles maybe installed.
- Review current leaf management practices and look for areas for optimization.

## 6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	March 6, 2019
Street sweeping	
Curb miles swept	242 miles
Volume (or mass) of material collected	45-50 Cu Yards
Catch basin cleaning	
Total catch basins in priority areas	~3,000
Total catch basins in MS4	~3,000
Catch basins inspected	1,000-1,100
Catch basins cleaned	1,000-1,100
Volume (or mass) of material removed from all catch basins	~200 CY
Volume removed from catch basins to impaired waters (if known)	UKN
Snow management	
Type(s) of deicing material used	Salt
Total amount of each deicing material applied	~1,000 tons
Type(s) of deicing equipment used	Truck/spreader
Lane-miles treated	242 miles
Snow disposal location	N/A



Staff training provided on application methods & equipment	Yes – as necessary
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	18,632 lbs <b>baseline</b>
Reduction in turf area (since start of permit)	26.1 acres <b>baseline</b>
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	N/A

#### 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](#)]**

Catch basins will all be inspected, cleaned out and the sumps will be measured. A second round of inspections and cleaning will be conducted and the amount of material removed will be recorded. A list will be generated and the catch basins with the most material present will be put on a more frequent cleaning schedule to ensure that the 50% design capacity for the sump is not exceeded.

## 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. [\[Provide information if available in 2017 report. Section to be completed for the 2019 Annual Report.\]](#)

Not applicable at this time

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

Not applicable at this time

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.**

Wet weather samples were collected from 10 of 36 total outfalls that discharge to impaired waters corresponding to 28% completed. An additional 14 of 36 outfalls have been screened, but not sampled due to no discharge present during screening or inaccessibility due to tidal influence. Six outfalls sampled exceeded pollutant thresholds and require follow-up investigation.

## 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.

Permit Outfall ID	Date	Turbidity (NTU)	Turbidity Upstream (NTU)	Total Coliforms (col/100mL)	Escherichia Coli (col/100mL)	Fecal Coliforms (col/100mL)	Enterococcus (col/100mL)	Total Phosphorus (mg/L)	Total Nitrogen (mg/L)	Lab	Follow-up Required
10086	9/25/18	3.40	7.54								NO
10095	9/25/18	13.59	18.79			11200	4610	0.09	0.4	Phoenix	YES
10096	9/25/18	7.08	11.46			1500	2250	0.046	0.43	Phoenix	YES
10115	9/28/18	0.24	4.74	>24200	2280		3870	0.058	5.58	Phoenix	YES
20124	9/25/18	2.44	4.98								NO
20127	9/25/18	7.04	7.74			3260	8160	0.117	0.52	Phoenix	YES
20150	9/28/18	1.27	1.40	>24200	3440			0.064	2.33	Phoenix	YES
20190	9/25/18	6.07	8.94								NO
20192	9/25/18	6.07	3.34								NO
20230	9/28/18	0.25	2.87	>24200	1500			0.148	0.93	Phoenix	YES

## 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?

## 3. Follow-up investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
10095	Follow-up investigation planned.	
10096	Follow-up investigation planned.	
10115	Follow-up investigation planned.	
20127	Follow-up investigation planned.	
20150	Follow-up investigation planned.	
20230	Follow-up investigation planned.	

## 4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)

Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)

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.

#### Non-Impaired Outfalls

Permit Outfall ID	Date	Ammonia (mg/L)	Chlorine (mg/L)	Conductivity (umhos/cm)	Salinity (g/kg)	Temp (oC)	MBAs (mg/L)	Escherichia Coli (col/100ml)	Follow-up Required
10011	6/20/2018	0.25	0.07	675	0.33	20.85	0.25	63	NO
10034	6/18/2018	0.25	0.01	59	0.03	24.04	0.5	10	NO
10061	6/18/2018	0.25	0.05	210	0.11	21.34	0.25	<10	NO
10171	6/18/2018	0.25	0.51	190	0.09	23.69	0	<10	NO
10175	6/20/2018	0.5	0.11	360		16.89	0.5	393	YES
10182	8/24/2018	0	0.06	537	0.26	27.5	0.25	84	NO
10186	6/27/2018	0.25	0.04	258	0.13	21.02	0.25	86	NO
10198	8/27/2018	0.25	0.03	471	0.23	25.15	0.25	52	NO
20020	2/5/2019	0.25	0.06	113	0.0523	11.3	0.75	<10	NO
20120	6/18/2018	0	0.02	758	0.39	22.46	0.25	<10	NO
20218	8/27/2019	0.25	0.39	344	0.16	23.45	0.25	<10	NO
20219	6/27/2018	0.25	0.05	227	0.12	20.25	0.25	465	NO
20230	10/25/2018	0	0.04	247329	19.93	13.19	3		NO
20245	6/27/2018	0	0.06	241	0.11	21.57	0.25	417	NO
30002	6/24/2018	0.25	0.15	6.3	0.3	22.3	0	74	NO
30006	6/27/2018	0.25	0.08	261	0.14	20.96	0.25	41	NO
30008	6/27/2018	0	0.05	228	0.12	21.73	0.25	183	NO
30009	8/27/2018	0	0.04	517	0.25	26.28	0	1600	NO
20200_FID_150	6/18/2018	0.25	0.19	81	0.04	25.12	0.5	598	NO

## Impaired Outfalls

Permit Outfall ID <small>↕</small>	Date <small>▼</small>	Enterococcus (col/100m <small>▼</small> )	Phosphorus (mg/L) <small>▼</small>	Total Nitrogen (mg/L) <small>▼</small>	UpStream Turbidity (NTU) <small>▼</small>	Turbidity (NTU) <small>▼</small>	Follow-up Required <small>▼</small>
10116	2/5/2019	107	0.252	2.63	2.75	2.81	NO
10196	8/27/2018	51	0.086	2.41			NO
20150	10/24/2018	73	0.032	0.77	4.04	3.1	NO
20151	10/24/2018	41	0.027	0.35	4.04	3.24	NO

## 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;
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).
12. History of multiple local health department or sanitarian actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather than poor owner maintenance).

### 3.2 Key junction manhole dry weather screening and sampling data

Key Junction Manhole ID	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants

### 3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

### 3.4 Data for each illicit discharge source confirmed through the catchment investigation procedure

Discharge location	Source location	Discharge description	Method of discovery	Date of discovery	Date of elimination	Mitigation or enforcement action	Estimated volume of flow removed

#### 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

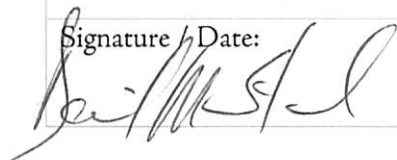
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 4/1/19

Signature / Date:

 4/1/2019