TOWN OF MANSFIELD, CONNECTICUT

2018 ANNUAL REPORT

PERMIT NUMBER: GSM000116

DRAFT

January 30, 2019

CONTENTS

1.0 Introduction

This Annual Report provides the public and regulators with the Town's efforts to comply with the conditions of the Connecticut Department of Energy and Environmental Protection's General Permit for the Discharge of Stormwater from Small Municipal Storm Sewer Systems (General Permit). In the following sections the Town will provide updates on activities performed associated with the 6 Minimum Control Measures (MCM).

Stormwater Program Permit Information	
1. Permitting Authority: State of CT Department of Energy & Environmental Protection	
2. Permit Number: GSM000116	3. Permit Type: General
4. Permit Name: General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems	
5. Date Issue: January 20, 2016	6. Date Expire: June 30, 2022

General Information for MS4 Operator	
1. Operator Name:	Town of Mansfield Department of Public Works
2. Represented Entity:	
3. Mailing Address:	4 South Eagleville Road
4. Mail City, State, Zip:	Mansfield, CT 06268
5. Phone Number:	(860)-429-3331
6. Email Address:	PublicWorks@mansfieldct.org
7. Population: 26,009	8. Area (sq. mi): 45.5
9. Official Website:	http://www.mansfieldct.gov

General Information for Primary Contact Person	
1. Name:	Derek M. Dilaj, P.E.
2. Title:	Assistant Town Engineer
3. Phone Number:	860-429-3334
4. E-Mail Address:	Derek.Dilaj@mansfieldct.org

General Information for Secondary Contact Person	
1. Name:	John C. Carrington, P.E.
2. Title:	Public Works Director
3. Phone Number:	860-429-3332
4. E-Mail Address:	John.Carrington@mansfieldct.org

2.0 Part I - Summary of Minimum Control Measure Activities

The Town currently has many practices and programs in place relating to stormwater management and pollution prevention. This Annual Report provides an update on the program outlined in the Stormwater Management Plan (Plan) drafted by the Town in March 2017. The Plan identified best management practices (BMPs) and measurable goals for the following six minimum control measures:

- Public education and outreach
- Public involvement / participation
- Illicit discharge detection and elimination
- Construction site stormwater runoff control
- Post-construction stormwater management
- Pollution prevention/good housekeeping

For each minimum control measure, the Town will define appropriate BMP's, designate a person(s) and job title responsible for each BMP, define a time frame for implementation for each BMP, and define measurable goals for each BMP.

2.1 MCM #1 - Public Education and Outreach

The Town initiated a program for educating a wide range of individuals, from elementary school children to developers. Programs included a tabletop demonstration for elementary school children to see how rainfall collects pollutants through various land uses and how it impacts the water bodies. This program is completed each year by the Town Sustainability Coordinator.

2.1.1 MCM #1 - BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
1-1 Launch of Webpage	Complete	Initial Launch of Webpage	Completion	Asst. Town Engineer/ IT	April 1, 2017	April 1, 2017
1-2 Update Website as Appropriate	In Progress	Updated Website to include Septic System Guidelines & Pet Waste	Update twice per year	Asst. Town Engineer/ IT	July 1, 2019	Continuous
1-3 Accumulate Educational Materials	In Progress	Identified potential ordinance for LID Maintenance	Accumulate 5 materials per year	Asst. Town Engineer / Inland Wetlands Agent	July 1, 2019	Continuous
1-4 Begin Public Education Program	In Progress	Accumulation of Educational Materials	Complete 2 Educational Programs per Year	Asst. Town Engineer / Inland Wetlands Agent	June 30, 2019	Continuous
1-5 Address Education for Pollutants of Special Concern	In progress	none	At each educational program highlight pollutants of concern	Asst. Town Engineer / Sustainability Coordinator / Inland Wetlands Agent	July 1, 2019	June 30, 2019

2.1.2 Public Education Activities

Activity	Audience (and # of people reached)	Topic(s) Covered	Pollutant of Concern Addressed	Department / Person Responsible
Stormwater Education Program for School Children	*Public School Students (30+)*	*Pathways of Storm water, ways Storm water can become affected*	*Bacteria, Nitrogen,*	*Sustainability Coordinator*
Launch Webpage	*Residents and Students with Web Access (13,000+)*	*Septic Systems*	*Bacteria, Impervious Cover*	*Asst. Town Engineer/ IT*
Rain Garden Installation App Brochure	*P&Z Applicants (100+)*	*Use of Low Impact Development Opportunities on Residential Properties*	*Impervious Cover*	*Zoning Agent / Asst. Town Engineer*

2.2 MCM #2 – Public Involvement / Participation

The Town posted the Plan by March 31, 2017 for public comment and this annual report on January 31, 2019 to provide adequate time for Public Comment. The Plan was presented to various commissions and committees for feedback. The annual report was made available through the Town's website, Town Council meetings, and Town Hall.

2.2.1 MCM #2 - BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
2-1 Provide Notification and Obtain Public Comment for SWMP	Complete	Provide a Minimum 60 day Notice to the Public and Obtain Public Comment for SWMP	Completion	Public Works Specialist	April 3, 2017	March 31, 2017
2-2 Provide Notification and Obtain Public Comment for Annual Reports	In progress	Noticed	Completion	Public Works Specialist	February 15, 2019	January 31, 2019

2.2.2 Public Involvement / Participation Activities

Activity	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes	March 31, 2017	http://www.mansfieldct.gov/content/1904/2344/48165.aspx
Availability of Annual Report announced to public	Yes	January 31, 2019	http://www.mansfieldct.gov/content/1904/2344/48165.aspx

2.3 MCM #3 – Illicit Discharge Detection and Elimination

This minimum control measure is critical to the success of the stormwater management program as it will identify and reduce untreated discharges that contribute high levels of pollutants, including heavy metals, toxic materials, oil and grease, solvents, nutrients, viruses and bacteria to receiving water bodies and prevent further illicit discharges in the future. The Town has initiated an IDDE tracking system to receive Citizen Concerns and monitor the status of known illicit discharges. For the upcoming year, the Town will be reviewing existing ordinances to verify that legal authority has been established over illicit discharges and utilize the IDDE plan template provided by CTDEEP to draft a written IDDE plan. In addition, the Town has initiated a program to map the MS4.

2.3.1 MCM #3 – BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
3-1 Develop record keeping system for IDDE tracking	Complete	Utilizing spreadsheet housed within Common Work Area	-	Asst. Town Engineer / EHHD Director of Health	July 1, 2017	April 25, 2017
3-2 Develop Citizen Reporting Program	Complete	Mobile 311 has now taken place of Q-Notify allowing for Public Works to be directly notified	Initiate response to citizen concerns within 72 hours 95% of the time.	Department of Public Works	July 1, 2017	June 30, 2018
3-3 Develop written IDDE	In progress	Draft Plan being internally circulated	Completion	Asst. Town Engineer / EHHD Director of Health	July 1, 2019	June 30, 2019
3-4 Establish legal authority to prohibit illicit discharges	In Progress	Draft Ordinance with Town Attorney	Completion	Town Council / Town Manager / Public Works Department	July 1, 2019	June 30, 2019
3-5 Initial Illicit Discharge Assessment and Prioritization	Not Started		Completion	Asst. Town Engineer / EHHD Director of Health	June 30, 2019	June 30, 2019
3-6 Address IDDE in areas with pollutants of concern	Not Started		Completion	Asst. Town Engineer / EHHD Director of Health	Not specified	June 30, 2019
3-7 Develop list and maps of all MS4 stormwater outfalls in priority areas	In progress	Town has mapped the southern portion of Town or approximately 34 miles	Inspect 30 miles of road per year	Department of Public Works	Jul 1, 2020	June 30, 2020

3-8 Complete MS4 Mapping	In Progress	Town has mapped approximately 50% of the stormwater system	Inspect 30 miles of road per year	Department of Public Works	Not specified	June 20, 2022

2.3.2 List of Citizen Reports

Date of Report	Location / suspected source	Response taken
10/25/2017	24" RCP outfall on eastern edge of Cedar Swamp Brook at Route 44	Requested photo from citizen, Citizen indicated cloudy appearance, conducted field visit (water running clear), discussed with UConn since this outfall was replaced under the Discovery Drive Construction.
3/26/2018	18" CMP outfall to unnamed stream to Sawmill Brook	A white discharge was observed by a resident. The Town investigated upstream and noted a white discharge from a hose that was laid into a Town catch basin. The hose conveyed wash water from the milking parlor of the dairy farm. This was due to a collapsed pipe in their system which was subsequently repaired.
10/14/2018	6" PVC Pipe Discharging to Eagleville Brook adjacent to North Eagleville Road on UConn Property	UConn was contacted for an odor complaint. UConn contacted the Town indicating they obtained samples from a 6" PVC pipe that discharges to a headwall with positive results of E-Coli and Coliform. Upon recommendation from EHHD samples for Phosphorous, Ammonia, and Surfactants were to be obtained however, when sample was attempted flow had ceased from the pipe. Follow ups by UConn will occur.

2.3.3 Summary of Illicit Discharges and 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)
74°14'16"/41°48'16"	Identified 4/18/15 (7 Days)	MS4	Unknown	Plumbing Contractor	Ceased use of station and completed re-plumbing of hand wash station.	
72°12'08"/41°44'10"	Identified 7/25/17	Private	Unknown	Property Owner	Ceased use of facilities and replaced failed pump	
72°13'55"/41°45'01"	Identified 3/26/2018 (1 Day)	MS4	Unknown	Property Owner	Repaired failed facility	

2.3.4 Tracking Methodology

The Town utilizes the Mobile 311 application to provide a mechanism to track IDDE based on location and eventual outfall location. Citizens are able to add specific work items (or requests) that specifically get routed to the Engineering Division. This allows for that division to coordinate with Eastern Highlands Health District and if necessary, the Building Department.

2.3.5 Failing Septic Systems

Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known
Not aware of currently failing septic systems		

2.3.6 IDDE Reporting Metrics

Metrics	
Estimated number of MS4 outfalls	196
Estimated number of interconnections	35
Outfall mapping complete	60%
Interconnection mapping complete	50%
System-wide mapping complete (detailed MS4 infrastructure)	66%
Outfall assessment and priority ranking	33%
Dry weather screening of all High and Low priority outfalls complete	0
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	5%

2.3.7 IDDE Training

The Town is researching various training options including consultant, regulatory, or joint training opportunities with the University of Connecticut (an adjacent MS4 operator).

2.4 MCM #4 – Construction Site Stormwater Runoff Control

This minimum control measure is a component of this SWMP because stormwater runoff from construction sites often flows to storm sewer systems and ultimately is discharged into local rivers and streams. Sediment is typically the main pollutant of concern but other pollutants include solid and sanitary wastes, phosphorous (fertilizer), pesticides, nitrogen (fertilizer), oil and grease, concrete truck washout, construction chemicals and construction debris. The goal of this minimum control measure is to reduce pollutants in stormwater runoff from construction activities. The Town has integrated four of the five BMPs this year. The remaining BMP is being introduced into the Town's Zoning Regulations and Engineering Standards.

2.4.1 MCM #4 – BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
4-1 State Permit Notification	Ongoing	Working with Permitting Vendor to add this as standard condition as required.	Inform 100% of Permits with Greater than 1.0 acre of requirements	Zoning Enforcement Officer	July 1, 2017	July 1, 2017
4-2 Public Involvement	Ongoing	Zoning Enforcement Officer investigates or involves individuals necessary to address public concerns.	Respond to public comment within 72 hours 95% of the time	Zoning Enforcement Officer	July 1, 2017	July 1, 2017
4-3 Conduct Site Inspections	Ongoing	Zoning Enforcement Officer conducts site visits as required.	Inspect all sites that meet applicable threshold	Zoning Enforcement Officer	July 1, 2017	July 1, 2017
4-4 Site Plan Review/Interdepartmental Coordination	Ongoing	The review team meets during the application process.	Complete update to zoning permit	Public Works Director / Director of Planning	July 1, 2017	July 1, 2017
4-5 Legal Authority	In Progress	Reviewing Zoning regulations and Engineering Standards as necessary.	Completion	Planning and Zoning Commission / Director of Planning	July 1, 2020	June 30, 2020

2.5 MCM #5 – Post-Construction Stormwater Management

Stormwater runoff from developed sites often flows to stormwater management systems, to MS4s, and ultimately is discharged into local rivers and streams. Runoff from these developments and/or redevelopment areas have been shown to significantly affect receiving water bodies. In accordance with the Plan, the Town updated its Zoning regulations to require LID be used a preferred means to address stormwater quality and quantity. This year, the Town through the mapping program identified additional stormwater management features. Operation and Maintenance plans are being developed and implemented for the bio-swales, wet-detention basins and bio-filters.

2.5.1 MCM #5 – BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
5-1 Enforce LID/runoff reduction requirements for development and redevelopment projects	In Progress	LID is considered in all permit reviews.	Completion	Director of Planning / Department of Public Works	July 1, 2022	June 30, 2020
5-2 Implement long-term maintenance plan for stormwater basins and treatment structures	In Progress	Consolidating Operation & Maintenance Plans for Publically Owned Facilities & Evaluating Use of Private Service Agreements	Complete routine maintenance on 3 stormwater basins	Department of Public Works	July 1, 2020	June 30, 2020
5-3 DCIA mapping	In Progress	Obtained 2012 Impervious Area GIS Layer and initiated mapping of connections	Complete 33% of Town each year	Department of Public Works	July 1, 2020	June 30, 2020
5-4 Address post-construction issues in areas with pollutants of concern.	In Progress	Applied for 319 Grant with Eastern Conservation District in Conantville Brook Watershed	Complete at least 1 retrofit of issue areas per year	Department of Public Works	July 1, 2020	June 30, 2020
5-5 Update legal authority and guidelines regarding LID and runoff reduction in site development planning	In Progress	LID measures are required for most projects and encouraged for small scale projects	Completion	Planning & Zoning Commission	July 1, 2022	June 30, 2022

2.5.2 Post-Construction Stormwater Management Reporting Metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	286.1 ac / 1.08%
DCIA disconnected (redevelopment plus retrofits)	1.27 acres this year / 4.3 acres total
Retrofits completed (since 2012)	6
DCIA disconnected	0.44% this year / 1.50% total since 2012
Estimated cost of retrofits	$100,000 / Town
Detention or retention ponds identified	15 this year /15 total

2.5.3 DCIA Baseline

The Town utilized the Connecticut Watershed Response Plan for Impervious Cover Appendix 3 referenced on the CTDEEP Municipal Stormwater Page. This document further references the USEPA document “Estimating Change in Impervious Area (IA) and Directly Connected Impervious Areas (DCIA) for Massachusetts Small MS4 Permit. (updated April 2014).” The Town’s newer roadways are a combination of curb and gutter and sheet flow from the roadway. Several curb and gutter subdivisions constructed after 2004 were constructed with water quality components, namely retention basins, filtration basins, and bio-filters. Older roadways drain with sheet flow to the road edges. Lot sizes in the Town are mostly over 2 acres in size resulting in setbacks that minimize the number of roofs directly connected to the MS4. As a result, the DCIA is estimated utilizing Option 2 with a designation of “Average”. Where “Average” is mostly storm sewered with cub and gutter, no dry wells or infiltration, residential rooftops not directly connected.

The Town area without the area associated with the UConn MS4 is 26,540 acres. Based upon the 2012 Impervious area layer provided by CT Eco, within the Town MS4 borders and Connecticut DOT MS4, there are 1,295 acres of impervious area resulting in 4.88% impervious area. Utilizing the “partially connected” equation from UConn CLEAR the Directly connected percentage is 0.59% or 286.1 acres of directly connected impervious area.

2.6 MCM #6 – Pollution Prevention / Good Housekeeping

This measure requires the Town to examine and subsequently alter its own actions to help ensure a reduction in the amount and type of pollution that collects on roadways, parking lots, open spaces, storage and vehicle maintenance areas, and all Town maintained facilities, and any other Town owned or leased operation which ultimately discharge into local waterways. The Town conducted several activities this year including a tracking system for DCIA and implementing a street sweeping program. In 2017, the Town and the Eastern Conservation District applied for and were notified of an award for the project located in the Saw Mill Brook Watershed.

2.6.1 MCM #6 – BMP Summary

BMP	Status	Activities in current reporting period	Measurable goal	Department / Person Responsible	Due	Date completed or projected completion date
6-1 Track projects that disconnect DCIA	Complete	Spreadsheet developed identifying project and methods	Completion	Asst. Town Engineer	July 1, 2017	July 1, 2017
6-2 Develop/implement street sweeping program	Complete	Implemented Standard Operating Procedure	Completion	Operations Manager	July 1, 2018	July 1, 2017
6-3 MS4 property and operations maintenance	In Progress	Reviewing draft Standard Operating Procedure	Completion	Operations Manager	July 1, 2018	June 30, 2018
6-4 Employee training program	In Progress	Investigating alternatives for providing training in concurrence with IDDE	Completion	Public Works Director / Facilities Director	July 1, 2019	June 30, 2019
6-5 Develop/implement plan to identify/prioritize retrofit projects	In Progress	Applying for 319 grant funding for retrofit projects	Completion	Public Works Director	July 1, 2020	April 1, 2020
6-6 Develop/implement catch basin cleaning program	In Progress	Reviewing SOPs from Central Massachusetts Regional Stormwater Coalition	Inspect all Catch Basins within UA	Operations Manager	July 1, 2020	June 30, 2020
6-7 Implement coordination with interconnected MS4s	In Progress	The Town meets with UConn periodically to discuss stormwater	Completion	Public Works Director	Not specified	June 30, 2020

6-8 Develop/implement program to control other sources of pollutants to the MS4	In Progress		Completion	Public Works Director	Not specified	June 30, 2022
6-9 Evaluate additional measures for discharges to impaired waters	In Progress		Completion	Public Works Director	Not specified	June 30, 2022
6-10 Develop/implement snow management practices	In Progress		Reduce Salt Usage (Ton per Lane-Mile per Storm) by 1% by end of permit	Operations Manager	July 1, 2022	June 30, 2022

2.6.2 Pollution Prevention / Good Housekeeping Metrics

Metrics	
Employee Training Provided for Key Staff	FY 2018/2019
Street Sweeping	
Curb Miles Swept	205
Volume (or mass) of material collected	650 cy
Catch Basin Cleaning	
Total catch basins in priority areas	450 (Estimated)
Total catch basins in MS4	1,580
Catch Basins Inspected	457
Catch Basins Cleaned	986
Volume (or mass) of material removed from all catch basins	199 cy
Volume removed from catch basins to impaired waters (if known)	230 cy
Snow Management	
Type(s) of deicing material used	Treated Salt
Total Amount of each deicing material applied	2,465 ton
Type(s) of deicing equipment used	Sander Spreader
Lane-miles treated	218
Snow disposal location	Transfer Station
Staff training provided on application methods & equipment	Yes – 2017
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septics)	
Cost of mitigation actions / retrofits	$0

2.6.3 Catch Basin Cleaning Program

The Town has routinely cleaned catch basins throughout Town for several years because the Town historically has utilized sand/salt mix for snow removal operations on the Town's right-of-way. The Town in 2016 moved to a treated salt only method of snow management. The DPW has continued a catch basin cleaning program that has identified several locations in Town that require increased cleaning frequency. As the detailed inspections are completed as required by the Permit, the Town will be able to identify higher priority catch basins that may require increased frequencies of cleaning. Once identified, the Town will conduct a review of the contributing watershed to identify the source. There are approximately 1,580 catch basins in the Town of Mansfield. To date, 986 catch basins have been identified through GIS mapping. This year the Town utilized its own forces and a subcontractor to clean these basins.

2.6.4 Retrofit Program

The Town has begun planning for the Retrofit Program by inventorying Town properties that currently do not have disconnected stormwater components. Through this inventory data is being collected on total impervious area, total connected impervious area, available on-site soils, and expected long term use of the facility. Concurrently with the inventory of Town facilities, grant funding opportunities that allow for stormwater and/or water quality improvements to be made are investigated.

3.0 Impaired Waters Investigation and Monitoring

3.1 Impaired Waters Investigation and Monitoring Program

Indicate which stormwater pollutants (s) of concern occur(s) in your municipality of institution

Nitrogen/ Phosphorus ☐ Bacteria ☒ Mercury ☐ Other Pollutant of Concern ☒

This section is required to be completed beginning in 2019.

4.0 Additional IDDE Program Data

This section is required to be completed beginning in 2019.

5.0 Certification

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: Derrik M. Kennedy	Print name: Derek M Dilaj, PE
Signature / Date:	Signature / Date: