

MS4 General Permit
Town of Manchester 2021-22 Annual Report
Existing MS4 Permittee
Permit Number GSM 000063
[January 1, 2021 – December 31, 2022]

This report documents Manchester's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2021 to December 31, 2022.

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	In Progress	Additional educational brochures uploaded to website;	Gather at least five educational brochures from various entities per year to update Town's website	Planning/ Dave Laiuppa	Jul 1, 2018	Ongoing	
1-2 Educate residents about home generated pollutants and management	In Progress	No Government Academy sessions were held this year due to COVID	Formalize Field Services presentation at Government Academy to discuss home generated pollutants and management	Public Works/ Ken Longo	Jul 1, 2018	Sept 20, 2018	<i>Check with Tim</i>
1-3 Educate volunteer organizations doing work in Town	In Progress	Met with committee members regularly to discuss improvements	Meet with Hockanum River Committee to discuss opportunities	Planning/ Dave Laiuppa	Jul 1, 2019	Ongoing	Goal changed to educate Hockanum River Committee instead of Garden Club

			to incorporate green infrastructure				
1-4 Turf management education	In progress	Letter drafted; expect to mail this summer	Direct mail a brochure regarding grass clippings/fertilizer/leaf management to local commercial landscaping companies	Planning/ Dave Laiuppa	Jul 1, 2020	Anticipate completing in summer 2023.	
1-5 Chemical storage/FOG/recycling education	In progress	Direct mailing not started; however FOG/recycling education materials added to webpage and plans for recycling/sustainability education center made	Direct mail a brochure regarding chemical storage/FOG/recycling to local commercial developments along the Hockanum River watershed	Planning/ Dave Laiuppa	Jul 1, 2021	Anticipate completing in 2023.	
1-6 Educate school age children about stormwater management	In progress	School visits not started; however we did work with UCONN students on stormwater project at Manchester High School	Visit three elementary or middle schools to discuss stormwater management	Planning/ Dave Laiuppa	Jul 1, 2022	Anticipate completing by the in 2023.	Students designed rain gardens for High School parking lot

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

- Updating Town’s website with additional educational brochures/resources
- Discuss residential stormwater management at 2021 Government Academy classes
- Meet with Hockanum River Committee
- Direct mail brochures to targeted audiences for BMP 1-4 and 1-5
- Continue plans for recycling/sustainability education center located at Manchester Landfill site

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.
Government Academy /Public Works Session	Manchester residents (approx. 30)	Model of stormwater system		Public Works Dept

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	Stormwater Management Plan put on Town's webpage to solicit comments	Solicit comments on Plan	Engineering/ Jeff LaMalva	Apr 3, 2017	Apr 27, 2017	
2-2 Comply with public notice requirements for Annual Reports	Completed	2021-22 Annual Report put on Town's webpage to solicit comments	Solicit comments on Annual Report	Engineering/ Jeff LaMalva	Feb 15, 2022	April 3, 2023	
2-3 Schedule annual Hockanum River cleanup day	Completed	Volunteers participated in Hockanum River Cleanup in October 2022	Schedule one cleanup day per year	Planning/ Hockanum River Linear Park Committee	Jul 1, 2018	October 2022	
2-4 Administer web-based customer service program which allows residents to notify Town of any stormwater issues	In Progress	Town's MarkIT web based customer service program is monitored daily.	Respond to customer requests within three business days.	Engineering/GIS Jeff LaMalva	Jul 1, 2018	Continuous	

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

- CT River Watershed Alliance Source to Sea Cleanup
- Solicit comments on Annual Report
- Continue monitoring of web-based customer service program for stormwater issues

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	YES	March 2017	https://www.manchesterct.gov/Government/Departments/Public-Works/Engineering

			-GIS/Storm-Water-Pollution-Prevention
Availability of Annual Report announced to public	YES	March 3, 2020	https://www.manchesterct.gov/Government/Departments/Public-Works/Engineering-GIS/Storm-Water-Pollution-Prevention

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	Completed		Develop written plan of IDDE program	Planning/ Dave Laiuppa	Jul 1, 2018	March 2019	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Completed		Produce map and lists of outfalls in priority areas	Engineering/GIS Jeff LaMalva	Jul 1, 2019	Aug 2019	
3-3 Implement citizen reporting program	Completed		Educate public on the use of the MarkIT citizen reporting tool	Engineering/GIS Jeff LaMalva	Jul 1, 2018	Jun 2017	
3-4 Establish legal authority to prohibit illicit discharges	Completed		Write and adopt a stormwater ordinance	Attorney's Office/ Tim O'Neil	Jul 1, 2019	May 2019	
3-5 Develop record keeping system for IDDE tracking	Completed		Maintain list of complaints/inspections for annual reporting	Engineering/GIS Jeff LaMalva	Jul 1, 2018	Dec 2017	

3-6 Address IDDE in areas with pollutants of concern	Ongoing	7 outlets at 4 locations along Hockanum River inspected.	Conduct dry weather inspections of outfalls along the Hockanum River	Public Works/ Tim Bockus	Jul 1, 2019	Ongoing	<i>Check with PW New app (Liz) Not just Hock (Designated Impaired)</i>
3-7 Complete list and maps of all MS4 stormwater outfalls throughout municipality	Completed	List and map of all MS4 outfalls completed	Produce map and lists of outfalls for publication on Town's website	Engineering/GIS Jeff LaMalva	Jul 1, 2022	Completed August 2020	

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

- | |
|---|
| <ul style="list-style-type: none"> • Continue to monitor the Town's MarkIT system for stormwater/IDDE issues • Conduct dry weather inspections of outfalls along the Hockanum River |
|---|

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

Date of Report	Location / suspected source	Response taken
December 2020	Boynnton subdivision/Folly Brook	Cease and Correct issued by Wetlands Agent
June 2022	325 Hillstown Rd/ Auto Repairs on Residential Property	Investigated;
September 2021	69 Woodside Drive / Animal waste dumped in watercourse	Notice of Violation issued by Wetlands Agent

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)
NONE						

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

Engineering is responsible for tracking reports and responses that come in through the MarkIT system or any other means. Results will be sent to the Director of Public Works for enforcement in accordance with the Town’s stormwater ordinance.

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
<i>N/A.... No known septic system failures during reporting period.</i>		

3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	265
Estimated or actual number of interconnections	0
Outfall mapping complete	(100%)
Interconnection mapping complete	N/A
System-wide mapping complete (detailed MS4 infrastructure)	(100%)
Outfall assessment and priority ranking	(50%)
Dry weather screening of all High and Low priority outfalls complete	(10%)
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).

Field staff are given outfall maps and trained to search for indicators of illicit discharges such as oil sheen, cloudy water, floatables, suds, staining and odor. If found, staff will enter data on reporting form for Public Works Director to initiate investigation and enforcement, if necessary.

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	Ongoing	In process of updating Town Wetlands Regulations	Review and update Zoning Regulations, Wetlands Regulations, Subdivision Regulations and Public Improvement Standards	Planning/ Gary Anderson	Jul 1, 2019	Ongoing	
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Completed	Planning Department schedules bi-weekly meetings with Town staff from other departments to discuss pending site plan applications	Continue bi-weekly staff review meetings	Planning/ Megan Pilla	Jul 1, 2017	Mar 2017	
4-3 Review site plans for stormwater quality concerns	Ongoing	Town staff reviews all site plan applications for stormwater quality concerns	Continue to review all private development plans	Planning/ David Laiuppa	Jul 1, 2017	Ongoing	
4-4 Conduct site inspections	Ongoing	Engineering Division inspection staff conduct site inspections on a daily basis	Continue to inspect all construction activity on a minimum weekly basis	Engineering/ Jeff LaMalva	Jul 1, 2017	Ongoing	Town purchased turbidity monitor to use for ongoing inspections of construction sites.
4-5 Implement procedure to allow public comment on site development	Ongoing	Public comments are received during public hearings through the	Continue public hearing process through Planning	Planning/ Gary Anderson	Jul 1, 2017	Ongoing	

		Planning and Zoning Commission	and Zoning Commission				
	Ongoing	Engineering Division responded to resident complaints on active construction sites	Review and respond to public comments on active construction sites within three days	Engineering/ Jeff LaMalva	Jul 1, 2017	Ongoing	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed		Modify application package to include language notifying developers about DEEP construction stormwater permit requirements	Planning/ Gary Anderson	Jul 1, 2017	March 2018	

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

- Complete updates to Town’s Wetlands Regulations.
- Continue to review site plans and inspect construction activity associated with private development
- Continue to hear public comments at Planning and Zoning Commission public hearings
- Continue to respond to complaints related to construction activity in Town

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	Completed	Sustainable Design and Low Impact Development Guidelines adopted in June 2020	Include new section in Zoning Regulations requiring LID and runoff reduction	Planning/ Gary Anderson	Jul 1, 2021	June 15, 2020	

5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In progress	Ongoing inspection of construction sites to assure compliance with PZC requirements	Monitor construction activity on a minimum weekly basis to assure compliance with LID/runoff reduction requirements approved by the PZC	Engineering/ Jeff LaMalva	Jul 1, 2021	Anticipate completing by the deadline of Jul 1, 2021
5-3 Implement long-term maintenance plan for stormwater basins and treatment structures	Completed	Long term maintenance plan completed	Implement plan to maintain five detention basins per year	Public Works/ Ken Longo	Jul 1, 2019	June 2019
5-4 DCIA mapping	Completed	Completed DCIA mapping	Complete DCIA mapping and place mapping on Town's website	Engineering/GIS Jeff LaMalva	Jul 1, 2020	October 2020
5-5 Address post-construction issues in areas with pollutants of concern	Ongoing	Conducted random inspections of two sites of concern: Boynton Subdivision and JC Penney Warehouse	Conduct random inspections of recently completed developments within areas of concern	Planning/ David Laiuppa	Not specified	Ongoing

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

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| <ul style="list-style-type: none"> • Continue maintenance of stormwater detention basins per plan • Conduct random inspections of recently completed developments |
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5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	4,152 acres (Method 1)
DCIA disconnected (redevelopment plus retrofits)	acres this year / acres total
Retrofits completed	#
DCIA disconnected	% this year / % total since 2012

Estimated cost of retrofits	\$
Detention or retention ponds identified	# this year /# total

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

The Town uses the weighted method using the five categories of land use in each basin.

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	Completed		Develop written employee training program	Public Works/ Ken Longo	Jul 1, 2017	Latest 8/31/18	Program has been in place for many years. Program was developed by Anchor Engineering.
6-2 Implement MS4 property and operations maintenance	Completed		Develop written procedures for chemical storage, turf management, spill containment, etc. for Town owned facilities	Public Works/ Ken Longo	Jul 1, 2017	2017	Written procedures on file at Public Works Office.
6-3 Implement coordination with interconnected MS4s	Ongoing	Field Service Administrator coordinates with DOT District office when working on drainage systems that connect to State owned systems.	Review/Coordinate with DOT when working on drainage systems that connect to State owned systems	Public Works/ Ken Longo	Jul 1, 2017	Ongoing	
6-4 Develop/implement program to control other sources of pollutants to the MS4	In Progress	Identified areas on Oak Grove Street and Town Hall parking lot for treatment structures	Review/Prioritize existing watersheds for potential water quality treatment structures	Engineering/ Jeff LaMalva	Jul 1, 2017	Ongoing	

6-5 Track projects that disconnect DCIA	In Progress	Town Hall parking lot; Manchester Country Club parking lot	Maintain a list of all projects completed that provide disconnection of DCIA	Engineering/ Jeff LaMalva	Jul 1, 2017	Ongoing	
6-6 Implement infrastructure repair/rehab program	Ongoing	Upgraded catch basins on streets resurfaced	Repair of rehabilitate existing catch basins on streets to be resurfaced	Public Works/ Tim Bockus	Jul 1, 2017	Ongoing	
6-7 Develop/implement plan to identify/prioritize retrofit projects	In Progress	Identified Center Springs Park and Oak Grove Street for retrofits	As part of Town's annual Capital Improvement Plan, identify at least two potential projects per year for retrofit/replacement	Engineering/ Jeff LaMalva	Jul 1, 2020	Ongoing	
6-8 Develop/implement street sweeping program	Completed		Sweep all streets at least once per year; document volume collected and miles swept	Public Works/ Tim Bockus	Jul 1, 2017	Jul 1, 2017	
6-9 Develop/implement catch basin cleaning program	In Progress	Many catch basins cleaned within DCIA area	Clean 1/3 of basins within DCIA>11% Areas	Public Works/ Tim Bockus	Jul 1, 2020	Ongoing	
6-10 Develop/implement snow management practices	Completed		Document results of snow removal program	Public Works/ Ken Longo	Jul 1, 2017	Completed 2017	

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

- Complete review and prioritization of watersheds for water quality structures
- Identify two stormwater retrofit projects for Capital Improvement Plan in October 2023
- Rehabilitate existing catch basins on roads resurfaced in 2023-24
- Continue implementation of street sweeping and catch basin cleaning programs

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	YES (ONGOING)
Street sweeping	
Curb miles swept	218
Volume (or mass) of material collected	690.2 TONS
Catch basin cleaning	
Total catch basins in priority areas	
Total catch basins in MS4	5527
Catch basins inspected	1658
Catch basins cleaned	1658
Volume (or mass) of material removed from all catch basins	489 TONS
Volume removed from catch basins to impaired waters (if known)	
Snow management	
Type(s) of deicing material used	Salt
Total amount of each deicing material applied	1,667 TONS
Type(s) of deicing equipment used	In body & all seasons spreaders
Lane-miles treated	520 miles
Snow disposal location	Globe Hollow Parking Lot
Staff training provided on application methods & equipment	Ongoing
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	Unknown
Reduction in turf area (since start of permit)	Unknown
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	\$

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]

Priority catch basins are identified as drainage low points, catch basins in industrial areas and areas with active road construction.

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.]

Catch basins located within roads to be resurfaced are inspected and repaired/retrofitted. In addition, new hydrodynamic separators were installed on Adelaide Street, Richard Road, Gardner Street and at Buckley School and Keeney School.

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.]

New hydrodynamic separators will continue to be installed on road reconstruction projects. Use of infiltration at municipal parking lots and parks will be reviewed for feasibility. Town will continue to seek funding through DEEP 319 program for other stormwater quality retrofits.

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.]

All road and parking lot projects will be reviewed for water quality per our Public Improvement Standards and treatment structures included in the project.

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.

The Town contracted with Weston and Sampson to conduct monitoring at thirteen outfalls throughout Town. Samples were collected on August 22, 2022, September 22, 2022 and October 24, 2022. Results are enclosed.

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?
8500182	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	1.34 mg/L 0.226 mg/L >48400 MPN/100mls 28.7	Phoenix Environmental	Yes
8500558	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	4.10 mg/L 0.520 mg/L >48400 MPN/100mls 52	Phoenix Environmental	Yes
8600482	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	5.71 mg/L 0.461 mg/L >48400 MPN/100mls 20.85	Phoenix Environmental	Yes
8500170	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	1.07 mg/L 0.125 mg/L >48400 MPN/100mls 11.58	Phoenix Environmental	Yes
8500286	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	0.99 mg/L 0.224 mg/L >48400 MPN/100mls 27.5	Phoenix Environmental	Yes

8500169	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	1.15 mg/L 0.197 mg/L >48400 MPN/100mls 21.57	Phoenix Environmental	Yes
8500285	8/22/22	Nitrogen Phosphorous, Bacteria Turbidity	1.81 mg/L 0.195 mg/L >48400 MPN/100mls 31.5	Phoenix Environmental	Yes
8500219	9/22/22	Nitrogen Phosphorous, Bacteria Turbidity	3.89 mg/L 0.725 mg/L >48400 MPN/100mls 10.42	Phoenix Environmental	Yes
8500149	9/22/22	Nitrogen Phosphorous, Bacteria Turbidity	0.73 mg/L 0.077 mg/L >48400 MPN/100mls 5.25	Phoenix Environmental	Yes
8500148	9/22/22	Nitrogen Phosphorous, Bacteria Turbidity	0.71 mg/L 0.077 mg/L >48400 MPN/100mls 5.46	Phoenix Environmental	Yes
8500249	9/22/22	Nitrogen Phosphorous, Bacteria Turbidity	1.03 mg/L 0.130 mg/L >48400 MPN/100mls 6.48	Phoenix Environmental	Yes
8600298	10/24/22	Nitrogen Phosphorous, Bacteria Turbidity	0.8 mg/L 0.066 mg/L >48400 MPN/100mls 17.18	Phoenix Environmental	Yes
8500002	10/24/22	Nitrogen Phosphorous, Bacteria Turbidity	1.89 mg/L 0.477 mg/L >48400 MPN/100mls 93	Phoenix Environmental	Yes
Adams St	11/23/20	Bacteria Nitrogen Phosphorous	19,900 MPN/100mls 2.88 mg/l 0.42 mg/l	Phoenix Environmental	Bacteria Nitrogen Phosphorous
New State Rd	11/23/20	Bacteria Nitrogen Phosphorous	>24,200 MPN/100mls 0.46 mg/l 0.09 mg/l	Phoenix Environmental	Bacteria only
North Main St	11/23/20	Bacteria Nitrogen Phosphorous	>24,200 MPN/100mls 0.65 mg/l 0.19 mg/l	Phoenix Environmental	Bacteria only
North School St	11/23/20	Bacteria Nitrogen Phosphorous	>24,200 MPN/100mls 0.87 mg/l 0.16 mg/l	Phoenix Environmental	Bacteria only
Hartford Rd	11/23/20	Bacteria Nitrogen Phosphorous	>24,200 MPN/100mls 1.05 mg/l 0.11 mg/l	Phoenix Environmental	Bacteria only
Charter Oak St	11/23/20	Bacteria Nitrogen Phosphorous	>24,200 MPN/100mls 0.91 mg/l 0.09 mg/l	Phoenix Environmental	Bacteria only

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.

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
<i>1-1C</i>	<i>Mill River</i>	<i>1, 3, 5, 6, 8</i>

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.

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: Steve Stephanou	Print name: Jeff LaMalva
Signature / Date:	Signature / Date: