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2020 ANNUAL REPORT

General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4)

Registration No. GSM000094

for

City of Waterbury, CT
235 Grand Street
Waterbury, Connecticut

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MS4 General Permit
City of Waterbury 2020 Annual Report
Existing MS4 Permittee
Permit Number GSM000094
January 1, 2020 – December 31, 2020
Primary MS4 Contact: David Simpson; Public Works Director; (203) 574-6851; dsimpson@waterburyct.org

This report documents the City of Waterbury's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 2020 to December 31, 2020.

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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	On-going	EPA Stormwater education materials are located on City website, Educational Program at Girls, Inc., Stormwater information is provided on Social Media, Naugatuck River Brigade	Provide Education May include: workshops, literature distribution and/or signage posting	Public Works or Dept. of Education / City Engineer / Mayor's office	Jul 1, 2018 On-going	Jul 1 2018 On-going	Continue with current education efforts
1-2 Address education/ outreach for pollutants of concern*	On-going	The City distributes info on common sources of phosphorus, nitrogen and bacteria pollution and how to prevent/ reduce the amount reaching the MS4.	Distribute literature, post signage	Public Works or Dept. of Education / City Engineer	Jul 1, 2018 On-going	Jul 1 2018 On-going	Topics to address bacteria may include: septic systems, sanitary cross connections, pet waste, and waterfowl. Continuing with current efforts.
1-3 Make GIS information available	On-going	The City's storm system mapping can be found on the City's Live GIS mapping site.	Provide public access to GIS map	PW and IT/ City Engineer	N/A	On-going	http://gis.waterburyct.org/GIS/GIS_MappingSites.asp

BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
1-4 Storm Drain inlets labelled	On-going	The City has a catch basin standard frame that states "Dump No Waste. Drains to Waterways." Contractors are required to use this frame within the City Right Of Way.	Label storm drain inlets with catch basin standard frame	PW/City Engineer	N/A	On-going	Continue with current efforts

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

- Continue to update the City's Stormwater webpage with new/updated stormwater related information
- Continue to support events for World Water Day, Earth Day, and World Oceans Day.
- Continue efforts to label storm drain inlets, as necessary.

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
Information on Stormwater for Citizen education can be found on the City's website at: http://www.waterburyct.org/content/9569/9605/9632/10197/default.aspx	City-wide (residents)	Stormwater	N/A	Public Works or Information Tech (IT)/ City Civil Engineer
Pet Waste Stations and signs have been posted at many City Parks in the past. These signs are maintained and replaced as needed.	City-wide (residents)	Pet Waste	E. coli (bacteria)	Public Works
Women of Water Program at Girls, Inc., August 2018 Not implemented in 2020 due to restrictions resulting from the COVID-19 pandemic.	Students (approx. 80)	Impact of litter on storm drains and waterways	N/A	Public Works
Social Media (Facebook and Twitter) was used periodically	Broad Audience	Litter, storm drains, river clean-ups	N/A	Public Works
Naugatuck River Brigade was formed with 13 high school students (seasonal). Removed litter and debris from the Naugatuck River. June-August 2020	Broad Audience, Students	Impact of litter on rivers and the ecosystem	E. coli (bacteria)	Mayor's office, Police Activity League

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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 Continue availability of Final Stormwater Management Plan to the public	Complete	Updated Stormwater Management Plan continues to be available on the City's website.	Post plan on City's Website	Public Works/ City Engineer	Apr 3, 2017	Apr 3, 2017 On-going	Plan located here: http://www.waterburyct.org/content/9569/9605/9632/10197/default.aspx
2-2 Comply with public notice requirements for Annual Reports	On-going	2019 Annual Report Notice of Availability posted on City website January 27, 2020. DRAFT 2019 Report posted on City's website on February 7, 2020.	Publish public notice and post report on City's website	Public Works/ City Civil Engineer	Provide notice annually January 31	On-going	2020 Annual Report Notice of availability posted on City's website DATE. DRAFT 2020 Annual Report posted on City's website DATE. All reports can be found at: http://www.waterburyct.org/content/9569/9605/9632/10197/default.aspx
2-3 Annual "Clean-up" Days along waterbodies	On-going	Not implemented in 2020 due to restrictions resulting from the COVID-19 pandemic.	Organize clean-up events	Public Works/Local Volunteers & Citizens	Annually	On-going	Earth Day and individual neighborhood clean-ups performed with DPW support

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 support events for World Water Day, Earth Day and World Oceans Day. Naugatuck River Brigade will continue to participate in Naugatuck River clean-up day efforts.
- Continue to engage Community Groups

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to public	Yes	Apr 3, 2017	https://www.waterburyct.org/content/9569/9605/9632/10197/default.aspx
Availability of Annual Report announced to public	Yes	Feb 5, 2020	https://www.waterburyct.org/news?Archives=1&ChanID=3033

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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	Complete	Plan revised February 13, 2019	Develop written plan and implement an IDDE Program	Public Works/ City Engineer	Jul 1, 2018	Jun 29, 2018 Revised Feb 13, 2019	Final IDDE Plan is available on City's website: https://www.waterburyct.org/content/9569/9605/9632/10197/default.aspx
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	In Progress	It is estimated that greater than 90% of outfalls are in the inventory and mapped.	Finalize mapping of all MS4 Outfalls	Public Works/ City Engineer	Jul 1, 2019	Dec 31, 2021 Revisions will be on-going.	The City recently procured the services of a new consultant and they are in the process of confirming outfall locations in the field. Revisions currently being made.
3-3 Implement citizen reporting program	Complete	The Citizens Service Center website was created, which allows the public to search for info and submit service requests.	Develop an online method for citizens to report spills and illicit dischargers	Public Works/ Mayor's Office / IT	Jul 1, 2017	Jul 1, 2017	Program was established prior to the new MS4 Permit. Citizen's Service Center webpage: http://www.waterburyct.org/311/ Smartphone Application: iReportWTBY
3-4 Establish legal authority to prohibit illicit discharges	Complete	The Ordinance and legal notice can be found in the IDDE Plan on the City's website.	Establish an illicit discharge ordinance	Public Works/ Corporate Counsel	Jul 1, 2018	Aug 20, 2018	The City recently procured the services of a new consultant and they are in the process of reviewing the City's stormwater ordinance in compliance with the permit.
3-5 Develop record keeping system for IDDE tracking	Complete	The City currently uses excel and access spreadsheets, along with GIS, for IDDE tracking.	Prepare IDDE tracking spreadsheet	Public Works/ City Engineer	Jul 1, 2017	Jan 2018 On-going	

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BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
3-6 Address IDDE in areas with pollutants of concern	In Progress	IDDE will be addressed City-wide.	Execute IDDE Program	Public Works/ City Engineer	Not Specific	On-going	This BMP will be conducted in conjunction with IDDE Screening, Sampling and Investigation.
3-7 Use of EpiCollect5 Mobile Phone Application for data collection in the field	On-going	City consultants used the EpiCollect5 while conducting Dry Weather Screening/ Sampling.	Collect/combine all outfall information into one database	Public Works/ City Engineer	N/A	On-going	

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

- Continue updating the MS4 outfall and system mapping
- Update the written IDDE program as needed
- Continue to implement citizen reporting program
- Continue maintaining master IDDE tracking system
- Complete reviewing the City's stormwater ordinance in compliance with the permit
- 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
No reports were received during the 2020 Reporting Period		

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)
35 Sharon Rd	12/15/2012; 5:30 pm – 7:30 pm	Mad River	2,000 – 3,000 gal	Sewer Main	Added to LTMP; Jetted line & vacuumed debris Add to LTMP	
605 Woodtick Rd	1/05/2015;	N/A	NOT Known	Raw Sewage	Added this section of Sanitary line to LTMP;	

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Location (Lat long/ street crossing /address and receiving water)	**Date and duration of occurrence**	**Discharge to MS4 or surface water**	**Estimated volume discharged**	**Known or suspected cause / Responsible party**	**Corrective measures planned and completed** (include dates)	**Sampling data** (if applicable)
	3:41 pm – 4:15 pm		homeowner said minor		Removed sticks, rags & other debris from MH#132	
Woodtick & Frost Rd	1/19/2015; 1:42 pm – 3:00 pm	N/A	Not determined. Homeowner would not let WPC worker into house for inspection	Blockage	Added to LTMP; Removed grease blockage	
Piping Rock Pump Station	2/6/2015; 10:00 am – 10:20 am	N/A	1,500 gal	Electrical Equip. Failure	Troubleshoot electric control panel; Vacuum Truck	
417 Pearl Lake Rd	3/26/2015; 12:30 pm – 12:40 pm	N/A	10 gal	Raw Sewage	Added this area to Long Term Cleaning Plan; Cleaned main line/homeowner will mop & clean garbage floor	
Overlook Ave ROW	3/31/2015; 12:45 pm – 2:15 pm	Steele Brook	2,000 gal	Blockage	Added to Long Term Cleaning Plan; Vacuumed & raked, limed waste material	
800' West of Bunker Hill Rd	5/6/2015; 12:30 pm – 4:30 pm	Trumpet Brook	2,000 gal	Broken pipe, misaligned Manhole & sewer line	Scheduled to repair misaligned manhole & sewer line; Raked & pick up debris & paper products	
800' West of Bunker Hill Rd	5/13/2015; 2:00 pm – 4:30 pm	Trumpet Brook	2,000 - 3,000 gal	Blockage	Repaired misaligned manhole & sewer line; Raked & picked up debris & paper products	
95 Schraffs Drive	1/12/2016; 12:45 pm – 2:00 pm	N/A	800-1,000 gal	Raw Sewage	Jetted line; Owner to call contractor	
62 Hewlett St	1/21/2016; 3:35 pm – 4:00 pm	N/A	Not determined. Homeowner would not allow WPC into basement	Raw Sewage	Added this area to City's LTMP; Jetted sanitary line on Eculid Ave, MH #59 to 61- there was not any waste on ground	
25 Branch St	2/23/2016; 11:00 am – 12:15 pm	N/A	About 50 gal	Blockage	Added another cleaning day to current LTMP; Cleaned 600 ft of main sanitary line	

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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)
Harper Ave. R.O.W.	6/16/2016; 8:00 am – 9:30 am	N/A	1,500 gal	Vandals	Adding new locking MH cover; Removed debris from MH, Jetted line- vacuumed and removed paper products	
497 Plank Rd	10/10/2016; 10:50 am – 1:05 pm	Surface Water	5,000 gal	Blockage - 1-84 construction crew broke a City MH while working in the Plank Rd area	State Contractor Repaired Manhole; Removed stones & bricks from MH	
282 Scott Rd	2/6/2017; 10:26 am – 8:33 pm	N/A	51-500 gal	Roots	This area added to the LTMP	
76 Piping Rock Dr.	4/4/2017; 8:57 am – 9:52 am	N/A	51-500 gal	Blockage	Removed piece of pipe from manhole. Cleaned and limed area	
Treatment Plant 210 Municipal Rd	4/16/2017; 10:35 pm – 11:10 pm	Naugatuck River	0.58 MG	Electrical Equip. Failure	Primary Pump Station Testing was completed on 5/15 by SNET; Debris around catch basin near the septage receiving area was removed manually using 5 gallon pails	
40 Old Colony Drive	5/7/2017; 5:07 am – 7:30 am	N/A	0-50 gal	Raw Sewage- Excessive Flows storm event	Add to LTMP & Corrective Action Plan; Cleaned 650 ft.	
62 Harper Ave	6/29/2017; 8:30 am – 10:37 am	N/A	51-500 gal	Raw Sewage/ sewer line blockage	Jetted and cleaned line from MH #63A to 64A; Cleaned and limed area	
831 Woodtick Rd	8/20/2017; 10:15 am – 10:50 am	N/A	51-500 gal	Sewer Line Blockage	This area added to the LTMP; Cleaned 1000' of the sanitary line	
5 Ward St	10/31/2017; 7:48 pm – 9:15 pm	N/A	51-500 gal	Blockage**	Added to LTMP; Removed grease blockage	
89 Clowes Terrace	1/12/2018; 4:15 pm – 5:28 pm	N/A	1-50 gal	Blockage**	Added to LTMP; Removed grease blockage	
Cornelius Ave	4/8/2018; 3:20 pm - 5:00 pm	N/A	1-50 gal	Blockage	Added to LTMP; Removed roots and debris	
3396 East Main Street*	6/4/2018 5:20 pm –	N/A	Unknown	Unknown	N/A	

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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)
	5:23 pm					
151 Sharon Rd	6/8/2018; 1:00 pm – 1:45 pm	Mad River	501 - 1,000 gal	Blockage	Added to LTMP; Removed grease and sand blockage	
611 Bunker Hill Ave	6/19/2018; 9:29 am – 11:01 am	Trumpet Brook	5,001 – 20,000 gal	Blockage in misaligned sanitary sewer line due to soil erosion in brook	Contractor replaced misaligned sewer lines and encased sewer lines in concrete; Raked & picked-up debris, lime waste material	
15 Pritchard Rd	7/3/2018; 1:00 pm – 3:00 pm	N/A	1-50 gal	Blockage	Added to LTMP	
509 Willow St	8/2/2018; 5:15 pm – 7:00 pm	N/A	51 – 500 gal	Blockage**	Added to LTMP	
Lorraine St ROW	11/26/2018; 11:30 am – 1:30 pm	N/A	501 – 1,000 gal	Raw Sewage	Added to LTMP; Cleaned 400 feet of sanitary sewer line	
133 Maybrook Rd	12/21/2018; 10:15 am – 12:45 pm	Welton Brook	2,500 gal	Heavy Rain 1”-2” per hour	Review pump station capacity; Maintained with Vacuum tank truck	
52 Terrell Rd	12/21/2018; 11:40 am – 1:42 pm	N/A	300 – 400 gal	Heavy Rain 1”-2” per hour	Review pump station capacity; Maintained with Vacuum tank truck	
Colonial Ave	12/24/2018; 11:00 am – 12:30 pm	N/A	250 gal	Pump Station force main failure	Monitor pump station operations on SCADA; Maintained with Vacuum tank truck	
190 Horseshoe Drive	1/2/2019; 8:00 pm – 9:30 pm	N/A	10-20 gal	Blockage / debris**	Removed debris; jetted & cleaned sanitary main line; added to LTMP	
133 Maybrook Rd	1/24/2019; 12:50 pm – 1:15 pm	Welton Brook	50 gal	Hydraulic***	Review pump station capacity; Maintained with Vacuum tank truck	
133 Maybrook Rd	1/24/2019; 12:30 pm – 8:00 pm	N/A	1000-5000 gal; change in conveyance	Hydraulic***	Review pump station capacity; Maintained with Vacuum tank truck; change of conveyance	
52 Terrell Road	1/24/2019; 2:30 am – 4:00 pm	N/A	1000-5000 gal; change in conveyance	Hydraulic***	Review pump station capacity; Maintained with Vacuum tank truck; change of conveyance	

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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)
62 Harpers Avenue	2/27/2019; 2:35 pm – 3:50 pm	N/A	1000-5000 gallons	Blockage / Debris/rags+	Jetted & cleaned sanitary sewer line to remove blockage; spread lime; increase number of times to clean per year	
29 Temple Street	3/24/2019; 7:25 pm – 9:30 pm	N/A	350-400 gal	Blockage / roots**	Jetted line & cut roots; added to LTMP	
341 Willow Street	4/30/2019; 4:00 pm – 4:25 pm	N/A	1-50 gal	Blockage / broken sewer	Vacuumed curb box and cleaned sidewalk area; notified Health Dept.; added to LTMP	
62 Harpers Avenue	6/11/2019; 3:05 pm – 4:55 pm	N/A	1000-5000 gallons	Blockage / Debris/rags+	Jetted & cleaned sanitary sewer line to remove blockage; spread lime; added to LTMP	
135 Industry Lane	6/24/2019; 12:00 pm – 1:30 pm	N/A	1000 gal	Blockage / Debris/rags**	Jetted private line to release blockage; notified Health Dept.	
62 Harpers Avenue	8/29/2019; 1:00 pm – 3:23 pm	N/A	400-500 gallons	Blockage / Debris/rags+	Jetted & cleaned sanitary sewer line to remove blockage; spread lime; on LTMP and inspect monthly	
3429 East Main Street	11/18/2019; 7:30 am – 10:30 pm	N/A	5000-20000 gallons	Blockage / unable to Identify++	Jacobs assisted Education Dept. w/ jetter to cellar blockage; instructed Educ. Dept. to hire contractor to clean area & maintain sewer line	
38 Birch Street	12/19/2019; 10:10 pm – 11:25 pm	N/A	50-500 gal	Sewer backup / unable to identify**	Jetted sewer line to clear blockage; CCTV sewer line to ensure line integrity	

*This was reported as a bypass, however, WPC was not provided access to the basement by the property owner, and therefore could not verify that there was a bypass, the volume of it, or the cause of it. If the cause of a Bypass is not immediately clear, it may take time to identify the cause of the backup. As these cases can sometimes become legal matters and may end up in formal court proceedings and/or arbitration; having to formally commit to a cause before completing the investigation and determining the true cause could potentially undermine these proceedings.

**Initial appearance is that the cause was due to grease, debris and/or roots, however, further investigation is needed to confirm the cause of the bypass. If the cause of a Bypass is not immediately clear, it may take time to identify the cause of the backup. As these cases can sometimes become legal matters and may end up in formal court proceedings and/or arbitration; having to formally commit to a cause before completing the investigation and determining the true cause could potentially undermine those proceedings.

***The cause was due to heavy rain of 1"-2" per hour, two pumps at each pump station are capable of pumping 300 gallons per minute, but were not able to keep up with high flow. During the heavy rain in event in January 24, 2019 the sewer flow was maintained with vacuum trucks and there was a change in conveyance.

+The cause was due to debris and rags which are most likely from unauthorized discharges from nearby Housing Authority Apartments, Housing Authority personnel are to be notified and they are to provide notification to the tenants of items that should not be flushed down the sewers.

++The private sanitary sewer and manhole services the Crosby High School and Wallace Middle School complexes, Education Department personnel were instructed to clean and maintained the private sewer system.

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

Reports filed through the website or Smartphone Application are entered into the IDDE tracking spreadsheet by one of the City's Civil Engineers.

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
Single family residence located at 1121 Chase Parkway	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 1149 Pearl Lake Road	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 1136 Chase Parkway	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Multi family residence located at 1110 Pearl Lake Road	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Multi family residence located at 567 Boyden Street	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Multi family residence located at 345 Huntingdon Avenue	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 172 Farrell Road	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 101 Malmalick Avenue	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 95 Hitchcock Road	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Single family residence located at 19 Elmhurst Avenue	System fixed to City of Waterbury Department of Public Health code	Presumed to be contained on the property
Commercial property located at 1211 Chase Parkway	New subsurface sewage disposal system installed	No water bodies impacted
Commercial property located at 1209 Chase Parkway	Only soil testing performed due to subdivision of property	N/A
Municipal school located at 1255 Hamilton Avenue	Tank & system removed as part of school demolition	No water bodies impacted
Residential property located at 74 Morton Road	New subsurface sewage disposal system installed	No water bodies impacted

Note: information obtained from Richard Lee, Chief Sanitarian of the Waterbury Health Department

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3.7 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	~351 presumed city owned outfalls*
Estimated or actual number of interconnections	~19 state road interconnections – Interconnections with other towns have not yet been located
Outfall mapping complete	~95% – Some outfalls need to be reclassified/relabeled
Interconnection mapping complete	TBD
System-wide mapping complete (detailed MS4 infrastructure)	~95% – Still need additional labeling
Outfall assessment and priority ranking	Initial ranking completed
Dry weather screening of all High and Low priority outfalls complete	294 – Includes some potential interconnections
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).

Employees in the City of Waterbury involved in the IDDE program will be trained at a minimum on how to identify illicit discharges and SSOs. Staff will read the IDDE Program Plan and watch the workshop presentations located on the UCONN Nemo website for clarification on their specific duties. Training will be conducted annually and recorded on the form located in the Appendix of the IDDE Plan. Training in 2020 was postponed until further notice due to restrictions resulting from the COVID-19 pandemic.

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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	On-going	The City's Land Use Regulations, revised through 2016, are currently being enforced.	Review and update the regulations to be consistent with the requirements of the permit.	PW/ Planning/ City Engineer	Jul 1, 2019	2016 May be revised if necessary	Included in the City of Waterbury Zoning regulation under Section 9.06 Stormwater & Erosion Management Standards. The City will continue to update ordinances/regulations to improve compliance with MS4 General Permit.
4-2 Develop/ Implement plan for interdepartmental coordination in site plan review and approval	On-going	Interdepartmental meetings are being conducted	Document current procedure	PW / Planning/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	
4-3 Review site plans for stormwater quality concerns	On-going	Site Plan reviews include the review of stormwater controls or BMPs in accordance with an E&S Control Plan for site with soil disturbance of 0.5 acre or more.	Continue to review all design plans for consistency with city and state guidelines for erosion and sediment control.	PW / Planning/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	
4-4 Conduct site inspections	On-going	The City has been conducting inspections of construction sites to ensure the adequacy of the installation, maintenance, operation & repair of runoff control measures	Continue existing program of construction inspections. Document inspections performed.	PW / Planning/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	
4-5 Implement procedure to allow public comment on site development	Completed	The public can contact the Citizens service Center by phone, entering a complaint in the QAlert System on the website, or iReportWTBY application on smartphones	Document public comments	PW / Planning/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	Information submitted is forwarded to the P&Z and PW Depts. Info regarding construction site runoff is forwarded to the Zoning enforcement officer
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Completed	Waterbury informs developers that they have a potential obligation to apply for a permit if their construction disturbs >1 acre of land	Update application forms to include determining if Construction Stormwater GP is required. Updated webpage.	PW / Planning/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	Notification includes provision that a copy of the SPCP be provided to the City upon request

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

- Continue to update ordinances/ regulations to improve compliance with MS4 General Permit.
- Continue to review all design plans for consistency with City and State guidelines for erosion and sediment control.
- Continue existing program for construction inspections.
- Continue to follow all State public notice and hearing requirements and follow up on all comments and complaints received.
- 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	In Progress	The City recently procured the services of a new consultant and they are in the process of reviewing the City's regulations in compliance with the permit.	Review and update the regulations to be consistent with the requirements of the Permit.	PW/Planning/ City Engineer	Jul 1, 2021	Dec 31, 2021	The City will continue to update ordinances/ regulations to improve compliance with MS4 General Permit.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	In Progress	The City will continue to suggest LID/runoff reduction to the Maximum Extent Practical, for development and redevelopment projects	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.	PW / Planning/ City Engineer	Jul 1, 2019	On-going	The City works with Developers to facilitate meeting permit requirements
5-3 Identify retention and detention ponds in priority areas	In Progress	The City recently procured the services of a new consultant and they will be confirming pond locations in the field.	Inventory of Town retention/ detention ponds and update existing maps	PW / Planning/ City Engineer	Jul 1, 2019	On-going	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In progress	Draft plan created on June 26, 2019. The City recently procured the services of a new consultant and they will be assisting the City with finalizing the plan.	Develop a maintenance plan for retention/ detention ponds and stormwater treatment structures.	PW / City Engineer	Jul 1, 2019	Jun 26, 2019 On-going	

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BMP	Status	Activities in current reporting period	Measurable goal	Department/ Person Responsible	Due	Date completed/ projected	Additional details
5-5 DCIA mapping	Substantially Completed	The DCIA for the priority areas have been calculated using the available impervious cover layers.	Calculate DCIA	PW / City Engineer	Jul 1, 2020	July 1, 2021	
5-6 Address post-construction issues in areas with pollutants of concern	To be Started	None	Document issues identified and address. Prioritize areas for the DCIA retrofit program under MCM-6	PW / Planning/ City Engineer	Not specified	On-going	Waterbury will prioritize those area for the DCIA retrofit program under BMP 6

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

- Continue to review and update ordinances/regulations to improve compliance with MS4 General Permit.
- Continue to enforce LID/runoff reduction requirements for development and redevelopment projects.
- Identify and map City-owned ponds and structures.
- Review Stormwater Structures Management Plan for areas of optimization and finalize plan.
- Conduct inspections and water quality monitoring for stormwater and treatment basins.
- Continue updating the DCIA mapping, as necessary.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics		
Baseline (2012) Directly Connected Impervious Area (DCIA)	29% - 5,463.65	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	Unknown	# total

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

- The UConn NEMO MS4 Map located at https://nemo.uconn.edu/ms4/tools/ms4map.html was used to determine the impervious cover clipped to the City of Waterbury boundary. Since most of the City's subregional drainage basins are at 11% or greater impervious cover, the impervious area is equal to directly connected impervious area was used. Due to large number of outfalls in the City, the baseline DCIA was calculated and tabulated using subregional drainage basin impervious cover values, rather than for each of the MS4 outfalls.

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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	On-going	A training program has been developed. No training events were conducted during 2020 due to safety restrictions resulting from the COVID-19 pandemic. Initiated the "Stormwater Management Overview" Online Training (Safe Personnel Training website).	Continue to track Town employee training on logs	PW / City Engineer	Jul 1, 2017	On-going Not implemented in 2020 due to restrictions related to the COVID-19 pandemic.	All staff within the Engineering & Streets Department and other key Public Works Bureau Supervisors are required to complete the "Stormwater Management Overview" Online Training (Safe Personnel Training website) in 2019. The City will continue its training program, and make amendments as needed with respect to the following: SOPs consistent with MS4 permit, goals and objectives of SMP, IDDE plan components, and Spill Response protocol and responsibilities.
6-2 Implement MS4 property and operations maintenance	On-going	Property and operations maintenance is currently underway and will continue for the duration of the permit term.	Continue MS4 property and operations maintenance in accordance with the Permit. Keep records of maintenance	PW/ Parks / Waterbury City Staff responsible for maintenance	Jul 1, 2018	July 1, 2018 On-going	The City will continue reviewing current practices looking for areas for optimization.
6-3 Implement coordination with interconnected MS4s	In-Progress	Through the outfall identification process, the City has identified several interconnections with the neighboring towns/cities.	Coordinate pollution prevention activities with interconnected MS4s.	PW / Planning / City Engineer	Not specified		

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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	The City recently procured the services of a new consultant and they will be identifying industrial facilities not registered under the DEEP's Industrial Stormwater General Permit.	Develop and implement a program to control the contribution of pollutants to the MS4.	PW / City Engineer	Not specified	On-going	
6-5 Evaluate additional measures for discharges to impaired waters	On-going	The City continues to add "Do Not Feed the Geese" signs around parks. Many pet waste stations and "Pick-Up After Pet" signs are located in various parks.	Identify potential project locations. Designate responsible person(s), hold meetings, start a log	PW / Parks / City Engineer	Not specified	On-going	
6-6 Track projects that disconnect DCIA	On-going	The City has a log to track projects that have disconnected DCIA from the MS4.	Annually track acreage of DCIA disconnected as a result of redevelopment/ retrofit projects within the City.	PW / Planning / City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	The tracking list was started and will be updated throughout the duration of the permit.
6-7 Implement infrastructure repair/rehab program	In-Progress	The City is logging all MS4 structures requiring repairs, rehabilitation, or an upgrade to reduce/ eliminate the discharge of pollutants.	Identify MS4 structures to repair, rehabilitate, or upgrade to reduce pollutant discharge.	PW / City Engineer	Jul 1, 2021	Dec 31, 2021	This program will be updated with information gathered during IDDE investigations and monitoring activities
6-8 Develop/ implement plan to identify/prioritize retrofit projects	In-Progress	Draft Retrofit Plan Prepared In 2021, the City will continue working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.	Develop a retrofit project plan to identify and prioritize DCIA connection projects	PW / Planning / City Engineer	Jul 1, 2020	Dec 31, 2021	

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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	Not Started	In 2021, the City will continue working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.	Implement Retrofit Plan – Reduce DCIA acreage by 1% each year starting July 1, 2021	PW / Planning / City Engineer	Jul 1, 2022	July 1, 2022	
6-10 Develop/ implement street sweeping program	On-going	See table in Section 6.3 for 2020 street sweeping statistics. Streets and parking lots within Priority Areas were swept following winter maintenance activities in 2020. This occurs at least once per year. In addition, areas with increased pollutant potential were swept more frequently. Street sweepings were disposed at the North End Disposal Area	Continue sweeping using frequencies outlined in the SMP. Maintain log of street sweeping	PW/ City Engineer	Jul 1, 2017	Jul 1, 2017 On-going	This City meets the sweeping frequencies outlined in the SMP, including rural and uncurbed streets and parking lots with no Catch basins. Downtown business area swept monthly from April through November.
6-11 Develop/ implement catch basin cleaning program	On-going	The City cleaned catch basins observed to be full based on resident or department work reports or complaints. The City has a designated catch basin cleaning crew during the spring. The City continues to monitor the trash extruders that are still installed in catch basins on high litter areas.	Continue current maintenance program in accordance with the Permit and maintian logs.	PW / City Engineer	Jul 1, 2020	July 1, 2020. On-going	See Table below for 2020 statistics. 800-1000 catch basins were cleaned by City Staff. 1200 catch basins were cleaned by an outsider contractor.
6-12 Develop/ implement snow management practices	On-going	The City will continue to brief associated stall at every snow storm on the SOPs for the use, handling, storage, application, and disposal of deicing products to minimize exposure to stormwater City maintains detailed logs of snow management activities and SOPs. See table below for 2020 snow management statistics	Develop/implement snow management practices. Maintain manual with written SOPs, records of training, logs of snow management activities	PW/ City Engineer	Jul 1, 2018	Jul 1, 2017 On-going	The City will manage and dispose of snow accumulations in accordance with DEEP BMP found at https://portal.ct.gov/DEEP/Water-Regulating-and-Discharges/Stormwater/Stormwater-Management The City will continue to consider the use of alternative materials to chloride based or other salt deicing products.

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

- Conduct annual MS4 training events.
- Continue to review MS4 property and operations maintenance practices and look for areas for optimization.
- Continue to identify MS4 interconnections with the neighboring towns/cities.
- Notify industrial facilities of their requirements to register under the Industrial Stormwater GP.
- Continue tracking disconnected DCIA using the table created.
- Continue logging all MS4 structures requiring repairs, rehabilitation, or an upgrade to reduce/ eliminate the discharge of pollutants.
- Continue efforts to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.
- Continue street sweeping, catch basin cleaning and snow management practices.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	No training in 2020 due to COVID-19 pandemic
Street sweeping	
Curb miles swept	340 miles
Volume (or mass) of material collected	Unknown
Catch basin cleaning	
Total catch basins in priority areas	6,600
Total catch basins in MS4	~6,600
Catch basins inspected	3,000
Catch basins cleaned	2,200
Volume (or mass) of material removed from all catch basins	Unknown
Volume removed from catch basins to impaired waters (if known)	Unknown
Snow management	
Type(s) of deicing material used	Sand (4/5) and Salt (1/5)
Total amount of each deicing material applied	16,000 tons
Type(s) of deicing equipment used	Truck/spreader
Lane-miles treated	340 miles
Snow disposal location	City owned property at 698 South Main Street
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)	N/A
Reduction in turf area (since start of permit)	N/A
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	None at this time

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6.4 Catch basin cleaning program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule.
The City will utilize the Citizen Service Request and work order tracking program called QAlert that includes a mobile app (iReportWTBY) for the public to report catch basins requiring maintenance, to prioritize catch basins to be cleaned. Use of this system aids the City in quantifying annual catch basin maintenance, including cleaning and repairs. The City will prioritize catch basins near impaired waters and construction sites. Those catch basins shall be cleaned more frequently.

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
In 2021, the City will continue working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection in future years.
In 2021, the City will continue working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.

Describe plans for continuing the Retrofit program beyond this permit term with the goal to disconnect 1% DCIA annually over the next 5 years.
In 2021, the City will continue working with its consultant to identify and prioritize potential projects for the Retrofit Program to the maximum extent practicable.

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Part II: Impaired waters investigation and monitoring

1. Impaired waters investigation and monitoring program

1.1 Indicate which stormwater pollutant(s) of concern occur(s) in your municipality or institution.

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.
1) Twenty-four (24) outfalls were screened for stormwater pollutants of concern. 2) All 24 outfalls require follow-up. 3)No changes have been made to the Stormwater Management Plan at this time. If, during Follow-up Investigation and Drainage Area Investigation, the need arises to update the Plan, changes will be made that time. No additional outfalls were monitored in 2020.

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

2.1 Screening data collected under 2017 permit

Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?*
6914-00-3- L4-004	6/29/2018	- Bacteria - Other pollutant of concern	- E. coli 11,370 cfu/100ml - T Coliform 12,100 cfu/100ml - Turbidity of outfall 49.0 NTU - Turbidity upstream 17.0 NTU	CET Subcontracted to PH-0509	Yes
6914-00-3- L4-015	6/29/2018	- Bacteria - Other pollutant of concern	- E. coli 8,570 cfu/100ml - T Coliform 9,600 cfu/100ml - Tubridity of outfall 232.0 NTU - Turbidity upstream 27.0 NTU	CET Subcontracted to PH-0509	Yes
6914-00-3-L4-012	6/29/2018	- Bacteria - Other pollutant of concern	- E. coli 8,900 cfu/100ml - T Coliform 9,810 cfu/100ml - Turbidity of outfall 25.0 NTU - Turbidity upstream 20.0 NTU	CET Subcontracted to PH-0509	Yes
6914-00-3- L3-007	6/29/2018	- Bacteria - Other pollutant of concern	- E. coli 8,600 cfu/100ml - T Coliform 10,100 cfu/100ml - Turbidity of outfall 80.0 NTU - Turbidity upstream N/A	CET Subcontracted to PH-0509	Yes
6914-00-3- L3-008	6/29/2018	- Bacteria - Other pollutant of concern	- E. coli 9,240 cfu/100ml - T Coliform 10,600 cfu/100ml - Turbidity of outfall 92.0 NTU - Turbidity upstream N/A †	CET Subcontracted to PH-0509	Yes
6914-00-3- R3-003	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,732.9 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 16.5 NTU - Turbidity upstream N/A	CET	Yes

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Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?*
6914-00-3- L3-017	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli >2,419.6 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 13.5 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- R3-008	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,553.1 MPN/100ml - T Coliform >2,419.6 MPN/100ml	CET	Yes
6914-00-3- R3-005	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 396.08 MPN/100ml - T Coliform >2,419.6 MPN/100ml	CET	Yes
6914-00-3- L3-005	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,986.3 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 17.5 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L3-013	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli >2,419.6 MPN/100ml - T Coliform >2,419.6 MPN/100ml	CET	Yes
6914-00-3- L3-003	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 547.50 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 21.0 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L3-001	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,046.2 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 13.0 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L3-004	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,732.9 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 6.52 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L3-002	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 1,046.2 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 6.47 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L3-002A	11/13/2018	- Bacteria - Other pollutant of concern	- E. coli 261.30 MPN/100ml - T Coliform >2,419.6 MPN/100ml - Turbidity of outfall 11.9 NTU - Turbidity upstream N/A	CET	Yes
6914-00-3- L4-001	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 749 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 19.20 NTU - Turbidity upstream 3.35 NTU	Phoenix	Yes
6914-00-3- L4-013	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 10 MPN/100ml - T Coliform 900 CFU/100ml - Turbidity of outfall 70.50 NTU - Turbidity upstream 16.44 NTU	Phoenix	Yes
6914-00-3- R3-004	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 706 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 25.20 NTU - Turbidity upstream 5.75 NTU	Phoenix	Yes
6914-00-3- L3-021A	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 52 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 12.45 NTU - Turbidity upstream 3.91 NTU	Phoenix	Yes
6914-00-3- L3-010	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 52 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 84.90 NTU - Turbidity upstream 2.10 NTU	Phoenix	Yes

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Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	Results	Name of Laboratory (if used)	Follow-up required?*
6914-00-3- L3-011	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 63 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 43.20 NTU - Turbidity upstream 2.10 NTU	Phoenix	Yes
6914-00-3- R3-018	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 279 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 46.10 NTU - Turbidity upstream 4.75 NTU	Phoenix	Yes
6914-00-3- R3-013	12/28/2018	- Bacteria - Other pollutant of concern	- E. coli 620 MPN/100ml - T Coliform >2,000 CFU/100ml - Turbidity of outfall 48.70 NTU - Turbidity upstream 9.30 NTU	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 ? *
6912-00-3- R1-002	10/27/2016	Bacteria	- E. coli 41,000 MPN/100ml	Connecticut Testing Laboratories	Yes
6900-00-4- R13-012	10/27/2016	Bacteria	- E. coli 18,600 MPN/100ml	Connecticut Testing Laboratories	Yes
6914-00-3- R3-002	10/27/2016	Bacteria	- E. coli 23,800 MPN/100ml	Connecticut Testing Laboratories	Yes
6900-00-4- R9-002	2000-2006	Bacteria	- 33 E. coli samples with a range of 50-24,000 col/100ml and a median of 11,000 col/100ml	Data found in "A Total Maximum Daily Load Analysis for Recreational Uses of the Naugatuck River Regional Basin" by CT DEEP April 17, 2008	Yes

*Follow-up investigation required (last column) if the following pollutant thresholds are exceeded:

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
It is anticipated that this will be initiated during 2021		

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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)
It is anticipated that this will be initiated during 2021				

Part III: Additional IDDE Program Data

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).

The following information was provided in the 2018 Annual Report. The DEEP Basins have not been re-ranked since then.

In order to assign a Priority Ranking of Catchments by DEEP basin, the method of averaging the IDDE ranking score was used. Scores were taken from the Catchment Assessment and Priority Ranking Matrix (hereafter referred to as the IDDE Ranking Matrix), included in the IDDE Plan. The IDDE Ranking Matrix score of outfalls within each DEEP local drainage basin were averaged and the basins were ranked by the averages, with 1 being the highest ranking and 23 being the lowest. Note that there are some duplicate ranking values as some averages of outfall scores were the same. See Column 3 below for results and below the table for additional background information.

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank* (Average Outfall score in parentheses)
6900-00-4-R9 *Naugatuck River*	*Low: 1/2* *Problem: 1/2*	*1 (8.50)*
6900-00-4-R13 *Naugatuck River*	*Low: 4/14* *High: 9/14* *Problem: 1/14*	*2 (7.86)*
6900-00-4-R12 *Naugatuck River*	*Low: 3/5* *High: 2/5*	*3 (7.20)*
6914-00-3-R2 *Mad River*	*Low: 2/2*	*4 (6.50)*
6914-00-3-L4 *Mad River*	*Low: 13/13*	*5 (6.23)*
6914-00-3-R3 *Mad River*	*Excluded: 1/16* *Low: 13/16* *High: 1/16* *Problem: 1/16*	*6 (6.06)*
6914-00-3-L3 *Mad River*	*Low: 17/17*	*7 (6.00)*
6900-00-4-R15 *Naugatuck River*	*Low: 1/1*	*7 (6.00)*
6913-00-1 *Beaver Pond Brook*	*Problem: 1/1*	*7 (6.00)*
6900-22-1 *Naugatuck River*	*Low: 2/2*	*8 (5.50)*
6900-21-1-L3 *Naugatuck River*	*Low: 1/1*	*9 (5.00)*
6900-22-1-L3 *Naugatuck River*	*Low: 1/1*	*9 (5.00)*

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1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank* (Average Outfall score in parentheses)
6914-11-1 Mad River	*Low: 5/5*	*10 (4.80)*
6912-00-3-R1 Steele Brook	*Low: 22/25 Problem: 3/25*	*11 (4.56)*
6900-00-4-R11 Naugatuck River	*Excluded: 3/56 Low: 51/56 Problem: 2/56*	*12 (4.50)*
6900-00-4-R14 Naugatuck River	*Excluded: 1/5 Low: 4/5*	*13 (4.40)*
6900-22-1-L4 Naugatuck River	*Excluded: 1/3 Low: 2/3*	*14 (4.00)*
6913-00-2-R2 Beaver Pond Brook	*Low: 4/4*	*14 (4.00)*
6911-00-3-R1 Hancock River	*Low: 25/26 Problem: 1/26*	*15 (3.85)*
6900-23-1 Naugatuck River	*Low: 6/6*	*16 (3.50)*
6913-00-2-R1 Beaver Pond Brook	*Low: 21/21*	*17 (3.29)*
6900-24-1 Naugatuck River	*Low: 8/8*	*18 (3.13)*
6900-22-1-L5 Naugatuck River	*Low: 1/1*	*19 (3.00)*
6900-22-1-L6 Naugatuck River	*Low: 3/3*	*19 (3.00)*
6900-23-1-L1 Naugatuck River	*Low: 1/1*	*19 (3.00)*
6900-23-1-L2 Naugatuck River	*Low: 2/2*	*19 (3.00)*
6900-23-1-L3 Naugatuck River	*Low: 12/12*	*19 (3.00)*
6911-00-3-L9 Hancock River	*Low: 1/1*	*19 (3.00)*
6912-06-1 Steele Brook	*Low: 1/1*	*19 (3.00)*
6914-08-1 Mad River	*Low: 4/4*	*19 (3.00)*
6914-09 Mad River	*Low: 1/1*	*19 (3.00)*
6914-09-1-L1 Mad River	*Low: 1/1*	*19(3.00)*
6916-11-1 Hop Brook	*Low: 3/3*	*19 (3.00)*
6916-11-1-L1 Hop Brook	*Low: 14/14*	*19 (3.00)*
6916 10-1 Hop Brook	*Low: 7/7*	*19 (3.00)*
6913-03-1 Beaver Pond Brook	*Excluded: 2/8 Low: 6/8*	*20 (2.91)*
6900-22-1-L1 Naugatuck River	*Excluded: 1/9 Low: 8/9*	*21(2.90)*
6916-00-3-L4 Hop Brook	*Low: 5/6 Excluded: 1/6*	*22 (2.83)*
6916-10-1-L1 Hop Brook	*Excluded: 3/7 Low: 4/7*	*23 (2.71)*

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1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank* (Average Outfall score in parentheses)
6913-03-1-L1 Beaver Pond Brook	*Low: 2/3 Excluded: 1/3*	*24 (2.67)*
6913-02-1 Beaver Pond Brook	*Excluded: 11/25 Low: 14/25*	*25 (2.56)*
6911-00-3-L8 Hancock River	*Excluded: 4/7 Low: 3/7*	*26 (2.43)*
6913-01-1 Beaver Pond Brook	*Excluded: 4/6 Low: 2/6*	*27 (2.33)*
6900-22-1-L2 Naugatuck River	*Excluded: 1/1*	*28 (2.00)*

*Overall Basin Rank based on average score of outfalls from IDDE Ranking Matrix

Background

The IDDE Ranking Matrix was used to score each individual outfall based on available catchment characteristics information. The outfalls in the IDDE Ranking Matrix were grouped by DEEP's local drainage basins and were assigned IDs based on these basin numbers. Outfalls were assigned to a priority category (excluded, low, high or problem) based on their score in the IDDE Ranking Matrix. The characteristics, and consequently the score and priority category, of each of the outfalls within a local drainage basin were not uniform. Therefore, the associated local drainage basin could not be directly assigned a single priority category and the averages of outfall scores for each drainage basin were used for the table above.

Dry weather screening and sampling began in June of 2018, with outfalls designated as low or high priority within priority areas in drainage basins to Impaired Waterbodies first, in order to meet the permit deadline of July 1, 2018. However, the outfall inventory and ranking had not been completed at this time. Screening and sampling started within the Mad River basins, followed by the Steele Brook and the Naugatuck River basins. Outfalls screened and sampled were located in areas where a significant amount of outfalls are in close proximity to each other to maximize time in the field. The City of Waterbury will continue to dry weather screen and sample outfalls within the DEEP local drainage basins with the highest rankings as listed above.

The following limitations and assumptions were made as part of the IDDE activities:

- *Outfalls that had prior evidence of sewer impacts from analytical data or are located in close proximity to and downgradient from properties with failing septic systems were categorized as "Problem". In addition to assigning an outfall to an "Excluded" category based on the score in the IDDE Ranking Matrix, outfalls were also checked for characteristics for "excluded catchments" as defined in the permit.*
- *Outfalls determined to be from private properties or roads, state owned roads, inlets, true culverts, or outfalls that discharge to wooded areas and not to "waters of the state", either from field reconnaissance or office research, were removed from the original list/total of outfalls found in the original IDDE Plan dated June 29, 2018.*
- *City-owned outfalls were prioritized for dry weather screening and sampling over interconnections and culverts. Only some interconnections and culverts were listed and ranked in the current IDDE Ranking Matrix.*
- ***Update for 2019:** Of the 85 Ends of Pipes(outfalls) that were initially identified as culverts, 24 were verified to be outfalls, added to the inventory, and are presumed to be either low or high priority. They will be dry weather screened and sampled and investigated if necessary. From this list, 31 were determined to be true culverts, 6 were state outfalls, 2 were private outfalls and 22 ends of pipes were actuallyinlets.*
- *Once the locations and details of the additional interconnections can be verified, they will be added to the inventory and dry weather screened and sampled and investigated if necessary.*

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

2.1 Dry weather screening and sampling data from outfalls and interconnections

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

Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6914-11-1-004	*7/31/2018*	*<0.10mg/l*	*Not detected*	*491.5 uS/cm*	*0.3 ppt*	*E. coli 65.00 MPN/100ml*	*<0.05 mg/l*	*20 C*	*n/a*	*N/A*
6914-11-1-003	*7/31/2018*	*0.22 mg/l*	*Not detected*	*676 uS/cm*	*0.4 ppt*	*E. coli 727.00 MPN/100ml*	*<0.05 mg/l*	*21 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
*6914-11-1-002***	*7/31/2018*	*<0.10mg/l*	*0.6 mg/l*	*181.6 uS/cm*	*0.1 ppt*	*E. coli <1 MPN/100ml*	*<0.05 mg/l*	*20 C*	*n/a*	*Will be ranked at top of high priority category for catchment investigation*
6914-11-1-001	*7/31/2018*	*<0.10mg/l*	*Not detected*	*399.3 uS/cm*	*0.2 ppt*	*E. coli 24.7 MPN/100mL*	*<0.05 mg/l*	*20.1 C*	*n/a*	*N/A*
6914-08-1-002	*7/31/2018*	*1.3 mg/l*	*Not detected*	*469 uS/cm*	*0.4 ppt*	*E. coli >2,419.6 MPN/100ml*	*<0.05 mg/l*	*19 C*	*n/a*	*Will be ranked at top of high priority category for catchment investigation*
6912-00-3-R1-013	*11/12/2018*	*<0.10 mg/l*	*Not detected*	*316 uS/cm*	*0.15 ppt*	*E. coli 107.60 MPN/100ml*	*<0.05 mg/l*	*1.1 C*	*E. coli*	*N/A*
6912-00-3-R1-011	*11/12/2018*	*<0.10 mg/l*	*Not detected*	*357 uS/cm*	*0.17 ppt*	*E. coli 770.10 MPN/100ml*	*<0.05 mg/l*	*1.1 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6912-00-3-R1-037	*11/29/2018*	*0.07 mg/l*	*Not detected*	*582 uS/cm*	*0.28 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*6.35 C*	*E. coli*	*N/A*
6912-00-3-R1-004	*11/29/2018*	*<0.05 mg/l*	*Not detected*	*338 uS/cm*	*0.16 ppt*	*E. coli 75 MPN/100ml*	*<0.05 mg/l*	*7.52 C*	*E. coli & Other*	*N/A*
6912-00-3-R1-006	*11/29/2018*	*<0.05 mg/l*	*Not detected*	*217 uS/cm*	*0.10 ppt*	*E. coli 988 MPN/100ml*	*<0.05 mg/l*	*6.13 C*	*E. coli*	*Will raise priority category from low to high for potential catchment investigation*
6912-00-3-R1-006a	*11/29/2018*	*<0.10 mg/l*	*Not detected*	*328 uS/cm*	*0.24 ppt*	*E. coli 30 MPN/100 ml*	*<0.05 mg/l*	*6.9 C*	*E. coli & Other*	*N/A*
6912-00-3-R1-009	*12/6/2018*	*<0.05 mg/l*	*Not detected*	*307 uS/cm*	*0.15 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*5.34 C*	*n/a*	*N/A*
6912-00-3-R1-012	*12/6/2018*	*<0.05 mg/l*	*Not detected*	*213 uS/cm*	*0.10 ppt*	*E. coli 199 MPN/100ml*	*<0.05 mg/l*	*6.6 C*	*n/a*	*N/A*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6912-00-3-R1-025	*12/6/2018*	*0.07 mg/l*	*Not detected*	*356 uS/cm*	*0.17 ppt*	*E. coli 30 MPN/100ml*	*<0.05 mg/l*	*8.51 C*	*n/a*	*N/A*
6912-00-3-R1-017	*12/6/2018*	*0.29 mg/l*	*Not detected*	*369 uS/cm*	*0.18 ppt*	*E. coli >24,200 MPN/100ml*	*0.34 mg/l*	*8.06 C*	*n/a*	*Will be ranked at top of high priority category for catchment investigation*
6914-00-3-L3-007	*12/11/2018*	*0.17 mg/l*	*Not detected*	*223.6 uS/cm*	*0.11 ppt*	*E. coli 20 MPN/100ml*	*<0.05 mg/l*	*1.8 C*	*E. coli & Other*	*N/A*
6914-00-3-L3-008	*12/11/2018*	*<0.05 mg/l*	*Not detected*	*0 uS/cm*	*0 ppt*	*E. coli 10 MPN/100ml*	*<0.05 mg/l*	*4.4 C*	*E. coli & Other*	*N/A*
6914-00-3-L3-004	*12/11/2018*	*<0.05 mg/l*	*Not detected*	*350 uS/cm*	*0.17 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*7 C*	*E. coli & Other*	*N/A*
6914-00-3-L4-006	*12/12/2018*	*<0.05 mg/l*	*Not detected*	*192.1 uS/cm*	*0.09ppt*	*E. coli 108 MPN/100ml*	*<0.05 mg/l*	*7.2 C*	*E. coli & Other*	*N/A*
6914-00-3-L3-017	*12/12/2018*	*<0.05 mg/l*	*Not detected*	*210.5 uS/cm*	*0.10 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*10.1 C*	*n/a*	*N/A*
6914-00-3-R3-004	*12/12/2018*	*<0.10 mg/l*	*Not detected*	*0 uS/cm*	*0 ppt*	*E. coli 52 MPN/100ml*	*<0.05 mg/l*	*9.4 C*	*E. coli & Other*	*N/A*
6914-00-3-R3-011	*12/12/2018*	*<0.05mg/l*	*Not detected*	*250.4 uS/cm*	*0.12ppt*	*E. coli 10 MPN/100ml*	*<0.05 mg/l*	*7.9 C*	*E. coli & Other*	*N/A*
6914-00-3-R3-006	*12/12/2018*	*<0.05mg/l*	*Not detected*	*712.5 uS/cm*	*0.35ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*7.4 C*	*E. coli & Other*	*N/A*
6900-00-4-R14-003	*12/14/2018*	*<0.05mg/l*	*Not detected*	*325.7 uS/cm*	*0.16ppt*	*E. coli 110 MPN/100ml*	*<0.05 mg/l*	*9.1 C*	*E. coli & Other*	*N/A*
6900-24-1-009	*12/14/2018*	*<0.05mg/l*	*Not detected*	*204.3 uS/cm*	*0.10ppt*	*E. coli 110 MPN/100ml*	*<0.05 mg/l*	*6.8 C*	*n/a*	*N/A*
6900-24-1-005	*12/14/2018*	*<0.05mg/l*	*Not detected*	*365.2 uS/cm*	*0.17ppt*	*E. coli 1,240 MPN/100ml*	*<0.05 mg/l*	*4.7 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-22-1-L1-012	*12/14/2018*	*<0.05mg/l*	*Not detected*	*159.6 uS/cm*	*0.08ppt*	*E. coli 327 MPN/100ml*	*<0.05 mg/l*	*8.9 C*	*n/a*	*N/A*
6900-00-4-R13-025	*12/19/2018*	*0.06 mg/l*	*Not detected*	*886 uS/cm*	*0.64ppt*	*E. coli 31 MPN/100ml*	*<0.05 mg/l*	*8.6 C*	*E. coli & Other*	*N/A*
6900-004-R13-018	*12/19/2018*	*0.08 mg/l*	*Not detected*	*794.7 uS/cm*	*0.39ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*5.6 C*	*E. coli & Other*	*N/A*
6900-00-4-R13-014	*12/19/2018*	*<0.05mg/l*	*Not detected*	*348.1 uS/cm*	*0.17ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*6.5 C*	*E. coli & Other*	*N/A*
6900-00-4-R13-006	*12/19/2018*	*0.05 mg/l*	*Not detected*	*550.7 uS/cm*	*0.27ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*5.7 C*	*E. coli & Other*	*N/A*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6900-00-4-R13-005	*12/19/2018*	*0.05 mg/l*	*Not detected*	*972 uS/cm*	*0.40ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*7.5 C*	*E. coli & Other*	*N/A*
6900-00-4-R13-003	*12/19/2018*	*0.59 mg/l*	*Not detected*	*502.7 uS/cm*	*0.24ppt*	*E. coli >24,200 MPN/100ml*	*1.33 mg/l*	*7.4 C*	*E. coli & Other*	*Sewage odor, ammonia, surfactants, & bacteria exceed minimal values. Will be ranked at top of high priority category for catchment investigation*
6900-00-4-R13-004	*12/19/2018*	*<0.05mg/l*	*Not detected*	*588 uS/cm*	*0.43ppt*	*E. coli <10 MPN/100ml*	*0.06 mg/l*	*7.3 C*	*E. coli & Other*	*N/A*
6900-00-4-R13-007	*12/19/2018*	*0.10 mg/l*	*Not detected*	*500 uS/cm*	*0.37ppt*	*E. coli 2,990 MPN/100ml*	*<0.05 mg/l*	*7.1 C*	*E. coli & Other*	*Foam noted. Will be ranked at top of high priority category for catchment investigation*
6914-00-3-R3-003	*7/11/2019*	*0.11 mg/l*	*0.2 mg/l*	*322 uS/cm*	*0.15ppt*	*>24,200MPN/100ml*	*<0.05 mg/l*	*21.24C*	*E. coli & Other*	*Will be ranked at top of high priority category for catchment investigation*
6914-00-3-L3-003	*7/11/2019*	*<0.05mg/l*	*Not detected*	*256 uS/cm*	*0.12ppt*	*E. coli 1110 MPN/100ml*	*<0.05 mg/l*	*17.42C*	*E. coli & Other*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R15-007	*7/11/2019*	*<0.05mg/l*	*Not detected*	*220 uS/cm*	*0.10ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*17.62C*	*E. coli & Other*	*N/A*
6900-00-4-R12-005	*7/11/2019*	*<0.05mg/l*	*0.4 mg/l*	*1212 uS/cm*	*0.6 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*19.89C*	*E. coli & Other*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R12-001	*7/11/2019*	*0.16 mg/l*	*Not detected*	*305 uS/cm*	*0.15ppt*	*E. coli 14,100 MPN/100ml*	*<0.05 mg/l*	*19.93C*	*E. coli & Other*	*Will raise priority category from low to high for potential catchment investigation*
6900-22-1-L4-002	*7/11/2019*	*0.06 mg/l*	*Not detected*	*231 uS/cm*	*0.11ppt*	*E. coli 31 MPN/100ml*	*<0.05 mg/l*	*18.23C*	*E. coli*	*N/A*
6900-00-4-R11-036	*7/15/2019*	*0.21 mg/l*	*0.2 mg/l*	*572 uS/cm*	*0.28ppt*	*E. coli >24,200 MPN/100ml*	*0.78 mg/l*	*20.52C*	*E. coli & Other*	*Will be ranked at top of high priority category for catchment investigation*
6900-00-4-R11-057	*7/25/2019*	*0.42 mg/l*	*0.2 mg/l*	*992 uS/cm*	*0.49ppt*	*E. coli >24,200 MPN/100ml*	*<0.05 mg/l*	*23.25C*	*E. coli & Other*	*Will be ranked at top of high priority category for catchment investigation*
6900-00-4-R11-037	*7/25/2019*	*<0.05mg/l*	*Not detected*	*730 uS/cm*	*0.36ppt*	*E. coli 282 MPN/100ml*	*<0.05 mg/l*	*21.96C*	*E. coli & Other*	*N/A*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6900-00-4-R13-022	*7/25/2019*	*<0.05mg/l*	*0.1 mg/l*	*815 uS/cm*	*0.4 ppt*	*E. coli 10 MPN/100ml*	*<0.05 mg/l*	*24.05C*	*E. coli & Other*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R11-019	*7/25/2019*	*0.12 mg/l*	*0.1 mg/l*	*192 uS/cm*	*0.09ppt*	*E. coli 52 MPN/100ml*	*<0.05 mg/l*	*20.97C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R11-028	*7/25/2019*	*<0.05mg/l*	*0.2 mg/l*	*347 uS/cm*	*0.17ppt*	*E. coli 95 MPN/100ml*	*<0.05 mg/l*	*18.23C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R11-023	*7/25/2019*	*<0.05 mg/l*	*0.3 mg/l*	*256 uS/cm*	*0.12 ppt*	*E. coli 14,100 MPN/100ml*	*0.14 mg/l*	*18.89 C*	*n/a*	*Will be ranked at top of high priority category for catchment investigation*
6911-00-3-R1-007	*7/26/2019*	*<0.05 mg/l*	*Not detected*	*300 uS/cm*	*0.14 ppt*	*E. coli 676 MPN/100ml*	*<0.05 mg/l*	*21.57 C*	*n/a*	*Will be scheduled for catchment investigation (previous data also indicated high bacteria during rain event)*
6911-00-3-R1-036	*7/26/2019*	*<0.05 mg/l*	*Not detected*	*374 uS/cm*	*0.18 ppt*	*E. coli <10 MPN/100ml*	*0.13 mg/l*	*19.53 C*	*n/a*	*N/A*
6911-00-3-R1-032	*7/26/2019*	*<0.05 mg/l*	*Not detected*	*396 uS/cm*	*0.19 ppt*	*E. coli 75 MPN/100ml*	*<0.05 mg/l*	*18.61*	*n/a*	*N/A*
6911-00-3-R1-029	*7/26/2019*	*<0.05 mg/l*	*0.1 mg/l*	*390 uS/cm*	*0.19 ppt*	*E. coli 52 MPN/100ml*	*<0.05 mg/l*	*20.71*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6912-00-3-R1-042	*7/26/2019*	*<0.05 mg/l*	*0.1 mg/l*	*466 uS/cm*	*0.22 ppt*	*E. coli 728 MPN/100ml*	*<0.05 mg/l*	*20.26 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6912-00-3-R1-024	*7/26/2019*	*0.05 mg/l*	*Not detected*	*207 uS/cm*	*0.1 ppt*	*E. coli 1020 MPN/100ml*	*<0.05 mg/l*	*19.99 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-00-4-R11-064	*7/26/2019*	*0.10 mg/l*	*0.1 mg/l*	*204 uS/cm*	*0.1 ppt*	*E. coli 146 MPN/100ml*	*0.07 mg/l*	*19.37 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6900-00-4-R11-053	*7/26/2019*	*0.19 mg/l*	*0.1 mg/l*	*285 uS/cm*	*0.14 ppt*	*E. coli 728 MPN/100ml*	*<0.05 mg/l*	*20.69 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6911-00-3-R1-020	*7/31/2019*	*<0.05 mg/l*	*0.3 mg/l*	*138 uS/cm*	*0.06 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*26.53 C*	*Other*	*Will raise priority category from low to high for potential catchment investigation*
6911-00-3-R1-006	*7/31/2019*	*<0.05 mg/l*	*Not detected*	*443 uS/cm*	*0.21 ppt*	*E. coli 631 MPN/100ml*	*<0.05 mg/l*	*20.71 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6911-00-3-R1-002	*7/31/2019*	*<0.05 mg/l*	*0.1 mg/l*	*380 uS/cm*	*0.18 ppt*	*E. coli 146 MPN/100ml*	*<0.05 mg/l*	*20.20 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6911-00-3-R1-023	*7/31/2019*	*0.43 mg/l*	*Not detected*	*450 uS/cm*	*0.22 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*22.28 C*	*n/a*	*N/A*
6900-23-1-L1-001	*8/2/2019*	*0.08 mg/l*	*0.3 mg/l*	*354 uS/cm*	*0.17 ppt*	*E. coli 1470 MPN/100ml*	*<0.05 mg/l*	*21.28 C*	*n/a*	*Will be ranked at top of high priority category for catchment investigation*
6900-23-1-L2-001	*8/2/2019*	*0.16 mg/l*	*0.1 mg/l*	*255 uS/cm*	*0.12 ppt*	*E. coli 96 MPN/100ml*	*<0.05 mg/l*	*21.6 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-23-1-001	*8/2/2019*	*0.18 mg/l*	*0.3 mg/l*	*291 uS/cm*	*0.14 ppt*	*E. coli 146 MPN/100ml*	*0.06 mg/l*	*20.3 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-23-1-L3-002	*8/2/2019*	*<0.05 mg/l*	*0.5 mg/l*	*145 uS/cm*	*0.07 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*21.54 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-23-1-L3-014	*8/2/2019*	*<0.05 mg/l*	*0.1 mg/l*	*205 uS/cm*	*0.1 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*16.9 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-23-1-002	*8/2/2019*	*0.12 mg/l*	*Not detected*	*254 uS/cm*	*0.12 ppt*	*E. coli 109 MPN/100ml*	*<0.05 mg/l*	*19.3 C*	*n/a*	*N/A*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6913-00-2-R1-001	*8/6/2019*	*<0.05 mg/l*	*0.1 mg/l*	*618 uS/cm*	*0.3 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*20.46 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6913-00-2-R1-018	*8/6/2019*	*<0.05 mg/l*	*0.1 mg/l*	*350 uS/cm*	*0.17 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*19.5 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-22-1-L1-010	*8/6/2019*	*0.09 mg/l*	*0.3 mg/l*	*187 uS/cm*	*0.09 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*19.3 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6900-22-1-L1-009	*8/6/2019*	*0.13 mg/l*	*Not detected*	*230 uS/cm*	*0.11 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*18.9 C*	*n/a*	*N/A*
6913-02-1-021	*8/27/2019*	*0.25 mg/l*	*Not detected*	*228 uS/cm*	*0.12 ppt*	*E. coli 41 MPN/100ml*	*<0.05 mg/l*	*18.47 C*	*n/a*	*N/A*
6913-02-1-022	*8/27/2019*	*0.07 mg/l*	*Not detected*	*239 uS/cm*	*0.13 ppt*	*E. coli 41 MPN/100ml*	*<0.05 mg/l*	*18.7 C*	*n/a*	*N/A*
6913-02-1-020	*8/27/2019*	*0.20 mg/l*	*Not detected*	*252 uS/cm*	*0.13 ppt*	*E. coli 583 MPN/100ml*	*<0.05 mg/l*	*20.42 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6913-02-1-012	*8/27/2019*	*0.29 mg/l*	*0.3 mg/l*	*231 uS/cm*	*0.12 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*18.94 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6913-02-1-018	*8/27/2019*	*<0.05 mg/l*	*0.2 mg/l*	*382 uS/cm*	*0.21 ppt*	*E. coli 213 MPN/100ml*	*<0.05 mg/l*	*18.95 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6913-00-2-R2-001	*8/27/2019*	*0.10 mg/l*	*0.1 mg/l*	*431 uS/cm*	*0.23 ppt*	*E. coli 31 MPN/100ml*	*<0.05 mg/l*	*19.29 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6913-03-1-001a	*9/10/2019*	*0.10 mg/l*	*Not detected*	*277.6 uS/cm*	*0.09 ppt*	*E. coli 288 MPN/100ml*	*<0.05 mg/l*	*17.6 C*	*n/a*	*N/A*
6913-03-1-003	*9/10/2019*	*0.05 mg/l*	*0.1 mg/l*	*435.3 uS/cm*	*0.11 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*18 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*

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Outfall / Interconnection ID	Screening / Sample Date	Ammonia	+Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern	If required, follow-up actions taken
6900-24-1-004	*9/10/2019*	*0.07 mg/l*	*Not detected*	*338.3 uS/cm*	*0.1 ppt*	*E. coli <10 MPN/100ml*	*0.07 mg/l*	*19.4 C*	*n/a*	*N/A*
6916-00-3-L4-005	*9/10/2019*	*0.09 mg/l*	*0.1 mg/l*	*400.6 uS/cm*	*0.14 ppt*	*E. coli 52 MPN/100ml*	*0.10 mg/l*	*18.2 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6916-00-3-L4-003	*9/10/2019*	*0.12 mg/l*	*Not detected*	*401.3 uS/cm*	*0.1 ppt*	*E. coli 10 MPN/100ml*	*0.07 mg/l*	*19.6 C*	*n/a*	*N/A*
6916-11-1-L1-003	*9/26/2019*	*0.14 mg/l*	*Not detected*	*232 uS/cm*	*0.11 ppt*	*E. coli 17300 MPN/100ml*	*<0.05 mg/l*	*16.39 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6916-11-1-L1-010 MH	*9/26/2019*	*0.16 mg/l*	*0.1 mg/l*	*202 uS/cm*	*0.1 ppt*	*E. coli 41 MPN/100ml*	*<0.05 mg/l*	*16.84 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*
6916-11-1-L1-011 MH	*9/26/2019*	*0.05 mg/l*	*Not detected*	*271 uS/cm*	*0.13 ppt*	*E. coli 10 MPN/100ml*	*<0.05 mg/l*	*19.84 C*	*n/a*	*N/A*
6916-10-1-L1-001	*9/26/2019*	*0.10 mg/l*	*0.1 mg/l*	*578 uS/cm*	*0.28 ppt*	*E. coli <10 MPN/100ml*	*<0.05 mg/l*	*19.2 C*	*n/a*	*Will raise priority category from low to high for potential catchment investigation*

*When the City performed GPS field locating of "ends of pipes" during the previous permit period, information such as observable flow, appearance, smell, in addition to other outfall characteristics/dimensions, was recorded. Historical weather data was verified that it was dry in the 24-hour period prior to this screening. Outfalls with no observable flow and no evidence of an illicit discharge, were considered to have had dry weather outfall screening and the date was recorded in current outfall inventory/sampling tables.

**The sample from 6914-11-1-02 for E. coli analysis was in an unpreserved jar. Since the sample had chlorine detected, the E. coli result may not be accurate. Outfall will be scheduled for follow-up investigation.

+Potential inaccuracies of 2019 chlorine data may be present due to field kit equipment malfunction/issues

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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
It is anticipated that this will be initiated during 2021									

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
It is anticipated that this will be initiated during 2021		

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 that 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 that poor owner maintenance).*

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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
It is anticipated that this will be initiated during 2021					

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
It is anticipated that this will be initiated during 2021				

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
It is anticipated that this will be initiated during 2021							

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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: **Neil M. O'Leary** **Mayor**	Print name: **T.J. Therriault, EIT, CDT** **Anchor, a Barton & Loguidice company**
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