Town of Hebron, Connecticut

2022 Annual Report

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

Permit Number GSM000101

MS4 General Permit
Town of Hebron 2022 Annual Report
Permit Number GSM 000101
January 01, 2022 - December 31, 2022

Primary MS4 Contact: Wade M. Thomas, Nathan L. Jacobson & Associates, Inc., wthomas@nlja.com, 860.526.9591

This report documents Town of Hebron's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 01, 2022 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	Activities in current reporting period	Sources Used (if applicable)	Method of Distribution	Audience (and number of people reached)	Measurable Goal	Person Responsible, Department	Additional Details
1-1 Implement public education and outreach	2017 through 2022 -None Before July 01, 2023 Clean Waters Starting in Your Home and Yard Fact Sheets were prepared by a collaborative effort between the Connecticut Sea Grant Extension Program and the		Will be made available to the public on the town website at: http://hebronct.com/		Developing	Andrew J. Tierney, Town Manager and Nathan L. Jacobson & Associates, Inc., Town Engineer	

Commented [LM2]: For each Minimum Control Measure, the permittee shall: define appropriate BMPs; designate a person(s) and job title responsible for each BMP; define a time line for implementation of each BMP; where appropriate, identify the location, including the address and latitude and longitude, for each BMP; and define measurable goals for each BMP (pg. 19)

Commented [LM3]: Implement a public education program to distribute educational materials to the permittee's community (i.e. residents, business and commerce, students, staff, contractors, etc.) or conduct equivalent outreach activities about the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff

Each Annual Report shall summarize the types, sources, number of, and methods by which materials disseminated (pg. 19)

	University of Connecticut Cooperative Extension System NEMO Program will be made available to the public on the town website.						
1-2 Address education/ outreach for pollutants of concern	None Required					Andrew J. Tierney, Town Manager	
1-3 Salmon River Watershed Partnership (SRWP) Activities	The SRWP Coordinator, Pat Young, represents the Partnership on statewide issues relating to water quality and non-point source pollution and related information is shared with the 10 watershed towns.		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	
	2017 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2017 March and ongoing Gay City State Park Vegetated Buffer Area and Biofilter and Permanent Educational Signage			90 RHAM Middle School Students	Public Education and Outreach	SRWP, UConn Master Gardeners and CT DEEP Parks	Impacts of waterfowl on water quality.

	2017 May to September HOBO stream temperature loggers were used to obtain hourly readings of temperature at 10 locations	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and Town land-Use Staff	Four sampling locations are located in Hebron and include: Fawn Brook at Blacks Bridge Road Fawn Brook at Conn Route 85 Jeremy River at Reidy Hill Road Raymond Brook at Kinney Road
	2017 June to August Field monitoring of 11 stream segment continued. Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 1 Summer Intern and 8 community volunteers	Two stream sampling locations are in Hebron: Raymond Brook N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420
	2017 October Pond Life and Water Quality		Field Trip	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Impacts of water quality on pond life.
	2018 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2018 May to September HOBO stream temperature loggers were used to obtain hourly readings of	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and	Five sampling locations are located in Hebron and include:

	temperature at 10 locations					Town Land-Use Staff	Fawn Brook at Blacks Bridge Road Fawn Brook at Conn Route 85 Jeremy River at Reidy Hill Road Mint Brook at Conn. Route 207 Raymond Brook at Kinney Road
	2018 June to August Field monitoring of 11 stream segment continued. Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 1 Summer Intern and 8 community volunteers	Two stream sampling locations are in Hebron: Raymond Brook N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420
	2018 Gay City State Park Vegetated Buffer Area and Biofilter 296 native shrubs and perennials were planted to further deter Canada Geese from the pond and temporary signage explaining the plants were installed.		https://www.salmonriverct.org	100s	Public Education and Outreach	SRWP, UConn Master Gardeners and CT DEEP Parks	Impacts of waterfowl on water quality.

	2018 August Hebron Day Celebration Public Event		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	A brochure was also available to participants which included steps landowners can take to protect water quality.
	2019 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2019 March Hebron Maple Fest		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach		
	2019 May to September HOBO stream temperature loggers were used to obtain hourly readings of temperature at 10 locations	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and Town Land-Use Staff	One sampling location was located in Hebron: Jeremy River at Chestnut Hill Road
	2019 June to August Field monitoring of 11 stream segment continued. Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 1 Summer Intern and 8 community volunteers	Two stream sampling locations are in Hebron: Raymond Brook N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420

	2019 Gay City State Park Vegetated Buffer Area and Biofilter March - August 150 native shrubs and perennials were planted to further deter Canada Geese from the pond. Temporary signage explaining the plants that were planted was also installed.			100s	Public Education and Outreach	SRWP, UConn Master Gardeners and CT DEEP Parks	Impacts of waterfowl on water quality.
	2019 August Hebron Day Celebration Public Event		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	A brochure was also available to participants which included steps landowners can take to protect water quality.
	2020 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2020 May to September HOBO stream temperature loggers were used to obtain hourly readings of temperature at 10 locations	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and Town Land-Use Staff	One sampling location was located in Hebron: Jeremy River at Grayville Road
	2020 June to August Field monitoring of 11 stream segment continued.	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns.	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 1 Summer Intern and 8	Two stream sampling locations are in Hebron: Raymond Brook

	Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.					community volunteers	N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420
	2020 August Hebron Day Celebration Public Event		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	A brochure was also available to participants which included steps landowners can take to protect water quality.
	2021 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2021 May to September HOBO stream temperature loggers were used to obtain hourly readings of temperature at 10 locations	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and Town Land-Use Staff	
	2021 June to August Field monitoring of 11 stream segment continued. Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 1 Summer Intern and 8 community volunteers	Two stream sampling locations are in Hebron: Raymond Brook N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420
	2021 August		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	A brochure was also available to participants which included

	Hebron Day Celebration Public Event		monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.				steps landowners can take to protect water quality.
	2021 November Pond Life and Water Quality		Field Trip	80 RHAM 7th and 8th Graders	Public Education and Outreach	Pat Young, SRWP Coordinator	Impacts of water quality on pond life.
	2022 March SRWP Annual Newsletter		https://www.salmonriverct.org	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Watershed resource protection and water quality preservation
	2022 March Hebron Maple Fest		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach		
	2022 May to September HOBO stream temperature loggers were used to obtain hourly readings of temperature at 10 locations throughout the watershed	Field sampling and analyses	https://www.salmonriverct.org The data can be accessed at: http://db.ecosheds.org/	100s	Public Education and Outreach	Pat Young, SRWP Coordinator 2 College Interns and Town Land-Use Staff	
	2022 June Hebron Day Celebration Public Event		In Person A booth was set up to display SRWP activities and a sign-up for volunteer water quality monitoring to focus on the impact of water quality on macroinvertebrates and water quality preservation.	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	A brochure was also available to participants which included steps landowners can take to protect water quality.
	2022 June to August Field monitoring of 11 stream segment	Field sampling and analyses.	https://www.salmonriverct.org A report was also prepared and forwarded to all 10 watershed towns	100s	Public Education and Outreach	Pat Young, SRWP Coordinator	Two stream sampling locations are in Hebron:

	continued. Weekly samples were analyzed for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity.					8 community volunteers	Raymond Brook N 41.6562 W -72.3463 Mint Brook N 41.6414 W -72.3420
	2022 October RHAM High School Stream Assessment Blackledge River and Fawn Brook	Classroom and Field program following CT DEEP protocol for benthic macroinvertebrate assessments		20 RHAM Students in UConn Environmental Science Class and Teachers	Public Education and Outreach	Pat Young, SRWP Coordinator	

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

The Salmon River Watershed Partnership (SRWP) was formed in 2007 and has been conducting public education and outreach activities since then. 2023 - It is anticipated that public education and outreach activities will continue to be conducted through the year.

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

2.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in Current Reporting Period	Measurable Goal	Person Responsible, Department	Date Completed or Projected Completion Date (include the start date for anything that is 'in progress')	Location Posted	Additional Details
2-1 Final Stormwater Management Plan publicly available	Complete	2017 A hard copy of the Draft 2017 Stormwater Management Plan (SMP) was made available to the public for review and comment on the town website.	Complied with Requirements	Andrew J. Tierney, Town Manager and Nathan L. Jacobson & Associates, Inc., Town Engineer	April 20, 2017.	http://hebronct.com/	No public comments were received by the Office of the Town Manager
2-2 Comply with public notice requirements for Annual Reports (Annually by 02/15)	Complete	2018 The Draft 2017 MS4 Annual Report will be made available for public review and comment on the town website.	Complied with Requirements The 2017 MS4 Annual Report was available to the public for review and comment.	Andrew J. Tierney, Town Manager	February 22, 2018	http://hebronct.com/	No public comments were received by the Office of the Town Manager
	Complete	2019 The Draft 2018 MS4 Annual Report will be made available for public review and comment on the town website.	Complied with Requirements The 2018 MS4 Annual Report was available to the public for review and comment.	Andrew J. Tierney, Town Manager	February 2X, 2019	http://hebronct.com/	No public comments were received by the Office of the Town Manager
	Complete	2020 The Draft 2019 MS4 Annual Report was made available for public review and	Complied with Requirements The 2019 MS4 Annual Report was available to the	Andrew J. Tierney, Town Manager	April 23, 2020	http://hebronct.com/	No public comments were received by the Office of the Town Manager.

Commented [LM4]: Publish a public notice on the permittee's website, through an email or mailing list, if the permittee maintains one, or in a newspaper with general circulation in the area to inform the public of the Plan and the Annual Report required by Section 6(j) of this permit and to solicit comments on the Plan and Annual Report (pg. 21)

Commented [LM5]: A permittee shall make its Stormwater Management Plan (Plan) available, electronically and at a publicly available location, for public review and comment at least ninety (90) days prior to the effective date of this general permit. The permittee shall also provide the internet address (URL) where the Plan may be located

The Plan shall be made available at the permittee's main office or other designated municipal or institution office, a local library or other publicly available location for public inspection (pg. 15)

Commented [LM6]: Such draft copies shall be made available electronically on the permittee's website for public inspection… and at at least one of the following locations: the permittee's main office or other designated municipal or institution office, a local library or other central publicly available location. … a copy of the final report shall be made available for public inspection during regular business hours (pg. 16)

		comment on the town website.	public for review and comment.				
	Complete	2021 The Draft 2020 MS4 Annual Report was made available for public review and comment on the town website.	Will Comply with Requirements The 2020 MS4 Annual Report was made available to the public for review and comment.	Andrew J. Tierney, Town Manager	March 02, 2021	http://hebronct.com/	No public comments were received by Wade Thomas at wthomas@nlja.com
	Complete	2022 The Draft 2021 MS4 Annual Report was made available for public review and comment on the town website.	Will Comply with Requirements The 2021 MS4 Annual Report was made available to the public for review and comment.	Andrew J. Tierney, Town Manager	April 28, 2022	http://hebronct.com/	No Public comments were received by Wade Thomas at wthomas@nlja.com
	Complete	2023 The Draft 2022 MS4 Annual Report was made available for public review and comment on the town website.	Will Comply with Requirements The 2022 MS4 Annual Report will be made available to the public for review and comment.	Andrew J. Tierney, Town Manager	February 23, 2023	http://hebronct.com/	Public comments are to be sent to Wade Thomas at wthomas@nlja.com
2-3 Gay City State Park Biofilter Project	Complete	2017 The biofilter and vegetated buffer areas were designed and constructed to restore vegetated buffer areas as a biofilter and aid in deterring Canada geese and filtering direct stormwater runoff to the waterbody. The project was a partnership		CT DEEP Parks and UConn Master Gardeners	Ongoing		

		between UConn Master Gardener and CT DEEP Parks. 2018 Planting of an additional 296 native shrubs and perennials 2019 Planting of an additional 150 native shrubs and perennials					
2-4 Town Planners Workshop	Complete	2017 May Town Planners Workshop with town land use staff to review upcoming large projects to incorporate stormwater quality measures		SRWP	May 2017		
2-5 Water Quality Monitoring	Ongoing	2017 through 2022 2017 3 College student interns, 2 community volunteers and town land use staff participated in water temperature readings on the Upper Jeremy Brook and Raymond Brook stations. 2018		Pat Young, SRWP Coordinator	Ongoing	https://www.salmonriverct.org	

		3 College student interns, 2 community volunteers participated in water temperature readings on the Upper Jeremy Brook and Raymond Brook stations. 2019 2 College student interns in partnership with town land use staff participated in water temperature readings on the Mint Brook and Raymond Brook stations 2020 2 College student interns in partnership with town land use staff participated in water temperature readings on the Mint Brook and Raymond Brook stations 2021 2 College student interns in partnership with town land use staff participated in water temperature					

		readings on the Mint Brook and Raymond Brook stations 2022 2 College student interns in partnership with town land use staff participated in water temperature readings on the Mint Brook and Raymond Brook stations					
2-6 Education Program	Continuing	2017 October Pond Life and Water Quality. Presentation and field netting, identification and discussion on impacts of water quality on pond life.		Pat Young, SRWP Coordinator	Ongoing	https://www.salmonriverct.org	90 RHAM Middle School Students, Teachers and Parents 15 Marlborough Boy Scouts
		2019 October Pond Life and Water Quality. Presentation and field netting, identification and discussion on impacts of water quality on pond life.	Field Trip	Pat Young, SRWP Coordinator	Ongoing		80 RHAM Middle School Students
	Continuing	2018 August Hebron Day Celebration	Booth	Pat Young, SRWP Coordinator	Ongoing		100+ area residents

		2019 August Hebron Day Celebration	Booth	Pat Young, SRWP Coordinator	Ongoing		
		2021 August Hebron Day Celebration	Booth	Pat Young, SRWP Coordinator	Ongoing		
		2022 June Hebron Day Celebration	Booth	Pat Young, SRWP Coordinator	Ongoing		
	Complete	2022 October Watershed Tour with Board Members and Town Officials	Watershed tour to discuss various projects in the watershed to engage board members and town officials	Pat Young, SRWP Coordinator	October 2022		
2-7 SRWP Outreach	Complete	2017 through 2022 **SRWP** Outreach	Summary of watershed monitoring efforts	Pat Young, SRWP Coordinator	Ongoing	https://www.salmonriverct.org	
	Complete	2017 through 2022 **Facebook** Outreach	Summary of watershed monitoring efforts	Pat Young, SRWP Coordinator	Ongoing	https://www.facebook.com/10towns	
	Complete	2019 through 2022 **Instagram** Outreach	Summary of watershed monitoring efforts	Pat Young, SRWP Coordinator	Ongoing	https://www.instagram.com/salmonriverct	
2-8 Consider establishment of a stormwater committee	In Progress	Begin process of identifying committee members if implemented	Provide a forum to coordinate SWMP implementation		Calendar Year 2023		

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

The Salmon River Watershed Partnership was formed in 2007 and has been conducting public outreach and participation activities which is anticipated to continue through 2023.

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

3.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in Current Reporting Period**	**Measurable Goal**	**Person Responsible, Department**	**Date Completed or Projected Completion Date** (include the start date for anything that is 'in progress')	**Additional Details**
3-1 Develop written IDDE program (Due 07/01/19)	In Progress	A written IDDE program using the IDDE program template available from the CT DEEP is being developed.	Develop written plan of IDDE program	Andrew J. Tierney, Town Manager and Nathan L. Jacobson & Associates, Inc., Town Engineer	Anticipate completing by the July 01, 2023.	The Department of Public Works will be the listed contact.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 7/1/20)	Completed	MS4 stormwater outfall mapping was conducted in 2007. The stormwater outfall mapping was compiled on a ESRI GIS layer. The MS4 stormwater outfall mapping will be updated to include impaired waters as contained in the State of Connecticut, Department of Energy and Environmental Protection 2016 Integrated Water Quality Report if applicable. The stormwater outfalls in the impaired waters will be identified.	Development of an ESRI GIS map layer with MS4 stormwater outfalls.	Andrew J. Tierney, Town Manager and Nathan L. Jacobson & Associates, Inc., Town Engineer	Prior to July 01, 2019	
3-3 Implement citizen reporting program (Ongoing)	In Progress	A program to allow the general public to report suspected illicit discharges is in the process of being set up.	Under Development	Kevin J. Kelly, Director, Department of Public Works	Anticipate completing by July 01, 2021.	The Department of Public Works will be the listed contact.
3-4 Establish legal authority to prohibit illicit discharges (Due 07/01/19)	In Progress	An Illicit Discharge Detection and Elimination Ordinance and Citation Hearing Procedure was enacted at a	Completed	Andrew J. Tierney, Town Manager	May 03, 2007	

Commented [LM7]: Within one (1) year of the effective date of this general permit for existing 2004 MS4 permittees and within two (2) years of the effective date of this general permit for new MS4 permittees, the permittee shall develop a written Illicit Discharge Detection and Elimination (IDDE) program designed to: provide the legal authority to prohibit and eliminate illicit discharges (as defined in Section 2 except for those discharges noted in the Section 3(a)(2) of this permit) to the MS4; find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and/or eliminate future illicit discharges (pg. 22)

Commented [LM8]: Develop a list (spreadsheet or database) and map or series of maps…showing all stormwater discharges from a pipe or conduit located within and owned or operated by the municipality or institution and all interconnections with other MS4s (pg. 23-24)

Commented [LM9]: The permittee shall develop a program for citizen reporting of illicit discharges. This may include maintaining a website, email list or mailing program that provides clear instructions for the public describing how citizens can submit an illicit discharge report (pg. 22)

Commented [LM10]: Establish the necessary and enforceable legal authority by statute, ordinance, rules and regulations, permit, easement, contract, order or any other means, to eliminate illicit discharges (pg. 23)

		Town Meeting on May 03, 2007.				
3-5 Develop record keeping system for IDDE tracking (Due 07/01/17)	In Place	Information regarding IDDE is included in the DPW road files	Completed	Kevin J. Kelly, Director, Department of Public Works	July 01, 2019.	
3-6 Address IDDE in areas with pollutants of concern	Not Applicable There are no Impaired Waters in Hebron other than Gay City State Park.	None Required	Not Applicable	Not Required	Not Applicable	Not Applicable

Commented [LM11]: The permittee shall maintain a record of illicit discharge abatement activities including, at a minimum: location (identified with an address or latitude and longitude), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party(ies) (pg. 23)

Commented [LM12]: To address septic system failures, the IDDE program shall give highest priority for the IDDE program in areas with the highest potential to discharge bacteria, phosphorus, and nitrogen to the MS4 (pg. 24)

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

The written IDDE Program will be developed and posted on the town website and a link listed in each Annual Report. The town will update the written IDDE program as needed throughout the permit term.

The Department of Public Works will maintain the master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process.

3.3 Provide a record of all citizen reports of suspected illicit discharges and other illicit discharges occurring during the reporting period and SSOs occurring July 2017 through end of reporting period using the following table.

Illicit discharges are any unpermitted discharge to waters of the state that do not consist entirely of stormwater or uncontaminated groundwater except those discharges identified in Section 3(a)(2) of the MS4 general permit when such non-stormwater discharges are not significant contributors of pollution to a discharge from an identified MS4.

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)
	2017				Not Applicable - No Illicit Discharges Reported	
	2018				Not Applicable - No Illicit Discharges Reported	
	2019				Not Applicable - No Illicit Discharges Reported	
	2020				Not Applicable - No Illicit Discharges Reported	
	2021				Not Applicable - No Illicit Discharges Reported	
	2022				Not Applicable - No Illicit Discharges Reported	

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

Method used to track illicit discharge reports	**Location and nature of structure with failing septic systems**	**Actions taken to respond to and address the failures**	**Impacted waterbody or watershed, if known**	**Dept. / Person responsible**
2017 - Citizen illicit discharge reporting system was not in place. No illicit discharges were reported.	2017 - 20 Repairs 34 Joel Drive 28 Cannon Drive 30 Cone Road 9 Hickory Drive 93 Jan Drive 485 Wall Street 931 Church Street 43 West Main Street 127 Country Lane 145 Senate Brook Drive 60 Brighton Road 233 Old Colchester Road 16 Jan Drive 33 East Street	 Repair Repair Repair Repair Repair Repair Repair Repair Repair Repair Repair Repair Repair Repair	 4706-01-1-L1 4705-00-1 3108-08-1-L1 3107-00-1 3107-00-1 4705-00-1-L1 4702-01-1 4705-00-1 4705-00-1 4705-00-3-R1 3107-00-1 4701-00-2-R4 3107-00-1 4706-00-1	

Commented [LM13]: All citizen reports and the responds to those reports shall be included in the Annual Report

The permittee shall maintain a record of illicit discharge abatement activities including, at a minimum: location (identified with an address or latitude and longitude), description, date(s) of inspection, sampling data (if applicable), action(s) taken, date of removal or repair and responsible party(ies). This information shall be included in the permittee's Annual Report (pg. 23)

Commented [LM14]: The Annual Report shall include a summary of the program, the number of areas identified with failing systems, actions taken by the permittee to respond to and address the failures, and the anticipated pollutant reduction (pg. 24)

	121 London Road 45 Slocum Road 16 Settlement Road 126 Grayville Road 410 Old Colchester Road 67 Old Colchester Road	Repair Repair Repair Repair Repair Repair	3107-00-1 4706-00-1 4705-00-1 4701-00-2-R4 4701-00-2-R4 4705-00-1	
2018 - Citizen illicit discharge reporting system was not in place. No illicit discharges were reported.	2018 - 27 Repairs 233 Martin Road 250 Hope Valley Road 13 Basket Shop Road 182 Old Colchester Road 74 Chestnut Hill Road 33 Willow Drive 70 Cone Road 347 Gilead Street 80 Slocum Road 22 Tannery Hill Lane 1030 Gilead Street 58 Carolyn Drive 5 Burnt Hill Road 87 Burnt Hill Road 244 Martin Road 101 Loveland Road 875 Church Street 28 Laura Drive 50 Slocum Road 111 West Street 36 Hoadly Road 33 Alice Lane 7 Fieldstone Drive 23 Olde Hall Road 116 Cannon Drive 31 Pub Circle 237 Skinner Lane	 Repair	 4706-02-1 4705-01-1 4705-00-01-L1 4701-00-2-R4 4705-00-1 3107-00-1 3108-08-1-L1 4706-00-1 4706-00-1 4706-01-1 4707-05-1 3107-00-1 4706-00-1 4706-00-1-L2 4706-02-1 4701-00-1 4701-00-2-R4 3107-00-1 4706-00-1 4707-09-1-L1 4705-03-1 4701-00-2-R4 4705-00-1 4706-01-1 4705-00-1 3107-00-1 4705-00-1-L1	
2019 - Citizen illicit discharge reporting system was in place. No illicit discharges were reported.	2019 - 23 Repairs 49 Cannon Drive 136 Martin Road 294 Skinner Lane 130 Slocum Road 27 Oak Drive 4 Abby Drive 9 Laura Drive 138 Millstream Road 347 Old Slocum Road	 Repair Repair Repair Repair Repair Repair Repair Repair Repair	 4705-00-1 4706-01-1 4705-00-1-L1 4706-00-1 3107-00-1 4707-05-1-L2 3107-00-1 4701-00-2-R1 4706-00-1	

	34 Oak Drive	Repair	3107-00-1	
	127 Joel Drive	Repair	4706-01-1	
	268 Skinner Lane	Repair	4705-00-1-L1	
	135 Slocum Road	Repair	4706-00-1	
	37 Northam Road	Repair	4705-00-2-R1	
	215 North Street	Repair	4707-05-1-L2	
	31 Attawanhood Trail	Repair	4705-00-1	
	291 Skinner Lane	Repair	4705-00-1-L1	
	29 Senate Brook Drive	Repair	4705-03-1	
	303 Skinner Lane	Repair	4705-00-1-L1	
	80 Yorkshire Drive	Repair	3107-00-1	
	19 Maple Avenue	Repair	4701-00-2-R4	
	43 Crouch Road	Repair	4701-00-2-R4	
	80 Yorkshire Drive	Repair	3107-00-1	
2020 - Citizen illicit discharge reporting system was in place. No illicit discharges were reported.	2020 - 40 Repairs 91 Millstream Road 238 Main Street 366 West Main Street 58 Hickory Drive 44 Old Colchester Road 370 Jones Street 182 London Road 61 Carriage Drive 65 Hickory Lane 18 Basket Shop Road 520 Wall Street 98 Jan Drive 279 Old Colchester Road 200 Gilead Street 82 Ridge Road 188 Jones Street 155 Reidy Hill Road 225 Martin Road 500 Wall Street 51-53 Gilead Street 180 Gilead Street 102 Northam Road 386 Burnt Hill Road 104 Old Colchester Road 56 Blackman Road 243 Hope Valley Road 353 West Main Street 165 Gilead Street 270 West Street 299 Jagger Lane	 Repair	 4701-00-1 4701-00-1 4706-00-1 3107-00-1 4705-00-1 4705-00-3-R4 3107-00-1 4706-00-1 3107-00-1 4701-00-1 4705-00-1-L1 3107-00-1 4701-00-2 4705-00-1-L1 4705-00-1 4705-02-1-L1 4705-00-2-R1 4706-01-1 4705-00-1-L1 4705-00-1 4705-05-1 4705-00-2-R1 4705-00-1-L1 4705-00-1 4706-00-1 4705-01-1 4706-00-1 4705-00-1 4707-09-1 4706-00-1	

	335 Jagger Lane	Repair	4706-00-1	
	310 West Street	Repair	4707-09-1	
	11 Joel Drive	Repair	4706-01-1-L1	
	315 Gilead Street	Repair	4706-00-1	
	110 Slocum Road	Repair	4706-00-1	
	182 London Road	Repair	3107-00-1	
	12 Karen Circle	Repair	4706-01-1-L1	
	26 Woods Lane	Repair	4705-00-1-L1	
	111 West Street	Repair	4707-09-1-L1	
	43 Joel Drive	Repair	4706-01-1-L1	
2021 - Citizen illicit discharge reporting system was in place. No illicit discharges were reported.	2021 - 3 Repairs			
	620 East Street	Repair	3108-07-1	
	35 Coleman Road	Repair	4707-09-1	
	148 Cannon Drive	Repair	4705-00-1	
2022 - Citizen illicit discharge reporting system was in place. No illicit discharges were reported.	2022 – 37 Repairs			
	619 Old Colchester Road	SSDS Repair	4702-02-1	
	261 West Street	SSDS Repair	4707-09-1	
	33 Country Lane	SSDS Repair	4705-01-1	
	4 Golf Lane	SSDS Repair	4707-08-1	
	121 East Street	SSDS Repair	4706-00-1/4705-00-1-L1	
	255 East Street	SSDS Repair	4706-00-1	
	425 Gilead Street	SSDS Repair	4706-00-1	
	154 Cannon Drive	SSDS Repair	4705-00-1	
	155 West Street	SSDS Repair	4706-02-1-L1/4707-09-1-L1	
	340 Burrows Hill Road	SSDS Repair	4706-00-1	
	438 Old Colchester Road	SSDS Repair	4702-00-2-R2	
	436 West Street	SSDS Repair	4707-09-1	
	113 Willow Drive	SSDS Repair	3107-00-1	
	114 Daly Road	SSDS Repair	3107-00-1	
	8 Karen Circle	SSDS Repair	4706-01-1-L1	
	248 West Street	SSDS Repair	4707-09-1	
	146 Jennifer Drive	SSDS Repair	4706-00-1	
	33 Hickory Drive	SSDS Repair	3107-00-1	
	285 Skinner Lane	SSDS Repair	4705-00-1-L1	
	100 Yorkshire Drive	SSDS Repair	3107-00-1	
	269 West Street	SSDS Repair	4707-09-1	
	5 Mohegan Lane	SSDS Repair	4705-00-2-R1	
	76 East Street	SSDS Repair	4705-00-1-L1	
	976 Church Street	SSDS Repair	4702-00-2-L1	
	888 Gilead Street	SSDS Repair	4706-01-1-L1	
	88 Niles Road	SSDS Repair	4702-02-1	
	50 Northam Road	SSDS Repair	4705-00-2-R1	
	186 North Street	SSDS Repair	4707-05-1-L2	
	364 Gilead Street	SSDS Repair	4706-00-1	

	26 Oak Drive 259 Millstream Road 27 Root Lane 528 Old Colchester Road 35 Basket Shop Road 167 Reidy Hill Road 205 West Street	SSDS Repair SSDS Repair SSDS Repair SSDS Repair SSDS Repair SSDS Repair SSDS Repair	3107-00-1 4701-00-2-R2 4706-01-2-R2 4702-00-2-R2 4705-00-1-L1 4705-00-2-R1 4706-02-1	

3.5 Briefly describe the method and effectiveness of said method used to track illicit discharge reports.

The citizen illicit discharge reporting system has been in place since 2017. No illicit discharges have been reported to date which corresponds to no discharges of sewage to town storm drainage systems based on records of Chatham Health District.

Commented [LM15]: The permittee shall evaluate and report the overall effectiveness of the program based on the tracking indicators in the annual report (Appendix B - pg. 13)

3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	293+
Estimated or actual number of interconnections	To Be Determined
Outfall mapping complete	95%
Interconnection mapping complete	0%
System-wide mapping complete (detailed MS4 infrastructure)	40%
Outfall assessment and priority ranking	0%
Dry weather screening of all High and Low priority outfalls complete	0%
Catchment investigations complete	0%
Estimated percentage of MS4 catchment area investigated	95%

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

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

Commented [LM16]: The permittee shall, at a minimum, annually provide training to employees involved in IDDE program about the program, including how to recognize illicit discharges and SSOs. The permittee shall report on the frequency and type of employee training in the annual report (Appendix B - pg. 13)

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

4.1 BMP Summary

BMP	**Status** (Complete, Ongoing, In Progress, or Not started)	**Activities in Current Reporting Period**	**Measurable Goal**	**Person Responsible, Department**	**Date Completed or Projected Completion Date** (include the start date for anything that is 'in progress')	**Additional Details**
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit (Due 07/01/20)	Ongoing	None	Moving to Compliance	Michael K. O'Leary, AICP, Town Planner, Planning and Development Department	July 01, 2017	It is anticipated that UConn CLEAR and/or a Regional Planning Agency will provide a Post-construction Stormwater Management template for use by all MS4 Towns.
4-2 Develop and Implement a plan for interdepartmental coordination in site plan review and approval (Ongoing)	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, prepares land use review letters for most applications for the Inland Wetlands Commission, Planning Commission and Zoning Commission.	Interdepartmental Coordination	Michael K. O'Leary, AICP, Town Planner, Planning and Development Department	July 01, 2017	
4-3 Review site plans for stormwater quality concerns (Ongoing)	Ongoing	Nathan L. Jacobson & Associates, Inc., Town Engineer, encourages the use of LID BMPs as contained in the 2004 Connecticut Stormwater Quality Manual.	Compliance	Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	
4-4 Conduct site inspections (Ongoing)	Ongoing	The town conducts construction site inspections for proper implementation and maintenance of soil erosion and sediment control measures.	Compliance with Approved Plans	Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	
4-5 Implement procedure to allow public comment on site development (Ongoing)	Ongoing	The land use application process allows for public comment on land use applications which are submitted to the Inland Wetlands Agency and the	Compliance	Michael K. O'Leary, AICP, Town Planner, Planning and Development Department	July 01, 2017	

Commented [LM17]: The permittee shall implement and enforce a program to control stormwater discharges (to its MS4) associated with land disturbance or development (including re-development) activities from sites (as defined in the Department's General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities) with one acre or more of soil disturbance, whether considered individually or collectively as part of a larger common plan (pg. 24-25)

Commented [LM18]: The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority (pg. 25)

Commented [LM19]: The permittee will develop and implement a plan outlining how all municipal or institutional departments and boards with jurisdiction over the review, permitting, or approval of land disturbance and development projects within the MS4 will coordinate their functions with one another (pg. 26)

Commented [LM20]: The permittee will conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts to water quality (pg. 26)

Commented [LM21]: The permittee will conduct site inspection(s) and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and post construction control measures (pg. 26)

Commented [LM22]: The permittee will implement a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities (pg. 26)

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

Commented [LM23]: The permittee will implement a procedure for notifying developers (working in a municipality) or contractors (working for a municipality or an institution) of their potential obligation to obtain authorization under the DEEP's General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities ("construction general permit") if their development or redevelopment project disturbs one or more acres of land, either individually or collectively, as part of a larger common plan, and results in a point source discharge to the surface waters of the state directly or through the permittee's MS4 (pg. 26)

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

5. Post-Construction Stormwater Management (Section 6(*a*)(5) / page 27)

5.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in Current Reporting Period	Measurable Goal	Person Responsible, Department	Date Completed or Projected Completion Date (include the start date for anything that is 'in progress')	Additional Details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning (Due 07/01/22)	Under Development	The land use regulations will be revised to incorporate the requirements contained in Minimum Control Measure No. 4 - Construction Site Runoff Control and Minimum Control Measure No. 5 - Post-Construction Runoff Control.	The requirements contained in Minimum Control Measure No. 5 - Post-Construction Runoff Control will be forwarded to the Town Planner.	Michael K. O'Leary, AICP, Town Planner, Planning and Development Department	Prior to July 01, 2021.	It is anticipated that UConn CLEAR and/or a Regional Planning Agency will provide a Post-construction Stormwater Management template for use by all MS4 Towns.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 07/01/22)	Ongoing	Continuing		Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	July 01, 2017	
5-3 Identify retention and detention ponds in priority areas (Due 07/01/20)	Under Development The detention pond and retention pond inventory will be completed in 2023.	Retention Ponds, Detention Ponds and Hydrodynamic Separators are being inventoried. A GIS Map Layer will be created after the inventory. Part of the inventory process will be facility operation and maintenance requirements.	Moving to Compliance	Kevin J. Kelly, Director, Department of Public Works and Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson &	Calendar Year 2023	

Commented [LM24]: The permittee shall establish an ordinance, bylaw, regulation, standard condition of approval or other appropriate legal authority that requires, to the MEP, that a developer or contractor seeking the permittee's approval shall consider the use of low impact development ("LID") and runoff reduction site planning and development practices prior to the consideration of other practices in the permittee's land use regulations, guidance or construction project requirements to meet or exceed those LID and runoff reduction practices identified in the Stormwater Quality Manual (pg. 27)

Commented [LM25]: The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of retention or detention ponds located in the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters and which discharge to, or receive stormwater from, its MS4. This shall include such ponds that are owned by the permittee and all privately-owned ponds where the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such retention or detention ponds and remove accumulated sediment to restore full solids capture design capacity where found to be in excess of 50% design capacity (pg. 30)

				Associates, Inc.		
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures (Ongoing)	To Be Implemented in 2020	Inventory Retention Ponds, Detention Ponds and Hydrodynamic Separators.	Accumulated Sediment is removed from all detention basins, retention basins and sedimentation structures annually.	Kevin J. Kelly, Director, Department of Public Works		A Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual with an Effective Date of July 01, 2019 was prepared and provided to the DPW.
5-5 DCIA mapping (Due 07/01/20)	Complete	Completed the process of DCIA Mapping from base mapping prepared by UConn CLEAR.	The DCIA to MS4 stormwater outfalls discharging to waters identified as impaired in the 2016 Integrated Water Quality Report and in watersheds with a DCIA of greater than 11 percent will start in 2018.	Nathan L. Jacobson & Associates, Inc., Town Engineer	February 2019	
5-6 Address post-construction issues in areas with pollutants of concern	Not Applicable There are no Impaired Waters in Hebron other than Gay City State Park.	While there are no Impaired Waters in Hebron, all post-construction stormwater management issues are corrected to address the concerns of Kevin J. Kelly and Thomas H. Fenton, P.E.	Stormwater outfalls discharging to waters identified as impaired in the 2016 Integrated Water Quality Report and in watersheds	Kevin J. Kelly, Director, Department of Public Works and Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson &	July 01, 2017	

Commented [LM26]: The permittee shall implement a maintenance plan for ensuring the long-term effectiveness of stormwater treatment structures or measures (such as swirl concentrators, oil/grit separators, water quality wetlands or swales, etc.) installed within the Urbanized Area and those catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters. This shall include structures that are owned by the permittee or those for which the permittee maintains an easement or other legal authority pursuant to Section 6(a)(4)(A)(i) of this permit. At a minimum, the permittee shall annually inspect all such structures/measures and remove accumulated pollutants (such as sediment, oils, leaves, litter, etc.) to restore full solids capture design capacity where found to be in excess of 50% design capacity (pg. 30)

Commented [LM27]: ... the permittee shall calculate the Directly Connected Impervious Area (DCIA) that contributes stormwater runoff to each of its MS4 outfalls (i.e. catchment area) within three (3) years of the effective date of this general permit... Each annual report shall document the progress of this task until its completion (pg. 30)

Commented [LM28]: For waters for which Nitrogen, Phosphorus or Bacteria is a Stormwater Pollutant of Concern:
To address erosion and sediment problems noted during the course of conducting the inspections required by subsection D above and identified by other means, the permittee shall develop, fund, implement, and prioritize these problems under the Retrofit program specified in Section 6(a)(6)(B) to correct the problem(s) in a specific timeframe and to establish short term and long term maintenance (pg. 31)

			with a DCIA of greater than 11 percent will be subject to enhanced water quality treatment.	Associates, Inc.		

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

Procedures outlined in the Post-Construction Stormwater Management Facility Operation & Maintenance Plan Manual were implemented in 2020.

5.3 Post-Construction Stormwater Management reporting metrics

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/post-construction.htm. Scroll down to the DCIA section.

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	7.00 Acres
DCIA disconnected (redevelopment plus retrofits)	2012 through 2016 - To Be Determined 2017 through 2022 - 0 Acres 2012 through 2022 - To Be Determined
Retrofit projects completed	2012 through 2016 - To Be Determined 2017 through 2021- 0 Acres 2012 through 2022 - To Be Determined
DCIA disconnected	2012 through 2016 - To Be Determined 2017 through 2022 - 0 Acres 2012 through 2022 - To Be Determined
Estimated cost of retrofits	$0
Detention or retention ponds identified	All ponds will be identified in 2023.

Commented [LM29]: The DCIA calculation shall be based upon the criteria available through the DEEP stormwater webpage (www.ct.gov/deep/municipalstormwater) and the precise methodology and assumptions shall be described in the permittee's Plan and initial annual report. Each annual report shall document the progress of this task until its completion (pg. 30)

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

Based on information contained in the Factsheet: *Town of Hebron Water Quality and Stormwater Summary,* prepared by the CT DEEP, 839.55 acres of the town has an impervious area exceeding 12% which is approximately 3.51% of the town. 364.47 acres have an impervious cover of ranging from 12% to 25%, 362.17 acres have an impervious cover ranging from 26% to 50%, 84.29 acres have an impervious cover ranging from 51% to 75% and 28.62 acres have an impervious cover ranging from 76% to 100%.

Based on information contained in the MS4 mapping tab of Connecticut Environmental Conditions Online The impervious surface area consists of 210.15 acres of buildings, 330.46 acres of roads and 420.20 acres of other impervious surfaces for a total impervious surface area of 960.81 acres.

The DCIA Mapping was conducted in substantial accordance with the methodologies presented in the October 25, 2017 UConn CLEAR Webinar entitled *CT MS4 Mapping Details, Clarifications and Tools,* the October 19, 2018 UConn CLEAR Workshop entitled *CT MS4 Mapping Workshop* as well as information contained in the EPA reference entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit utilizing Sutherland equations*.

The DCIA computations were prepared utilizing Connecticut Environmental Conditions Online MS4 base mapping prepared by UConn CLEAR.

Impaired waters were determined from the report entitled *2018 Integrated Water Quality Report*, dated August 01, 2019, prepared by the State of Connecticut Department of Energy and Environmental protection.

The method to determine the 2012 baseline DCIA was to first compile the CT DEEP drainage basin characteristics in a Microsoft Excel spreadsheet. Information on the Connecticut Environmental Conditions Online MS4 Mapping was used to determine the impervious area breakdown as Buildings, Roads and Other. For CT DEEP drainage basins that fell in two or more municipalities the advanced mapping tab of Connecticut Environmental Conditions Online was used to delineate and determine the applicable town CT DEEP basin area. It was assumed that the entire drainage basin characteristics were directly proportional to the applicable town CT DEEP drainage basin area.

In that Conn DOT has a MS4 Stormwater Program which applies to state owned roads and facilities which the town has no control over, it was decided that the impervious state road area would be determined and deducted from the total impervious road area for each CT DEEP drainage basin as the impervious road areas associated with state highways and facilities constitutes a considerable portion of the total town impervious road area.

The Conn DOT state highway, parking lot and facility impervious road areas were then determined for each CT DEEP drainage basin.

The Conn DOT state highway, parking lot and facility impervious road areas were then deducted from the total town impervious road area to determine a town owned impervious road area for each CT DEEP drainage basin.

Subsequent to the above deduction, the total impervious area in acres and percentage was then recomputed for each CT DEEP drainage basin.

The DCIA formula for each of four development types was then utilized to compute the DCIA. The impervious area in acres was assigned to each of the four Sutherland equations which were modified for the northeastern United State. The Sutherland equation to be utilized was determined using the following methodology:

For impervious percentage less than 6%:

100% of the impervious area was assigned to the slight connectivity Sutherland Equation where $DCIA\% = 0.01*(IA\%)^{2.0}$

For an impervious area between 6% and 12 %:

50% of the area was assigned to the partial connectivity Sutherland Equation where $DCIA\% = 0.04*(IA\%)^{1.7}$
and
50% was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10*(IA\%)^{1.5}$

For an impervious area between 12% and 18 %:

50% of the area was assigned to the average connectivity Sutherland Equation where $DCIA\% = 0.10*(IA\%)^{1.5}$
and
50% was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40*(IA\%)^{1.2}$

For an impervious area of greater than 18 %:

100% of the area was assigned to the high connectivity Sutherland Equation where $DCIA\% = 0.40*(IA\%)^{1.2}$

The DCIA for each CT DEEP drainage basin was then summed to determine the entire town DCIA.

Subsequent to completion of 2012 Baseline DCIA computations, UConn CLEAR Mapping available on Connecticut Environmental Conditions Online (CT ECO) was revised to separate road impervious area into State Road Impervious Area (Acres) and Town Road Impervious Area (Acres).

The original 2012 Baseline DCIA computations were revised utilizing the UConn CLEAR State Road Impervious Area (Acres) and Town Road Impervious Area (Acres). No major 2012 Baseline DCIA computation discrepancies were noted.

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

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

6.1 BMP Summary

BMP	Status (Complete, Ongoing, In Progress, or Not started)	Activities in Current Reporting Period	Measurable Goal	Person Responsible, Department	Date Completed or Projected Completion Date (include the start date for anything that is 'in progress')	Additional Details
6-1 Develop and implement a formal employee training program (Ongoing)	Ongoing	See 6.3 Below DPW Employees are encouraged to attend formal training programs.	Compliance	Kevin J. Kelly, Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer	July 01, 2017	
6-2 Implement MS4 property and operations maintenance (Ongoing)	Ongoing		Compliance	Kevin J. Kelly, Director, Department of Public Works	July 01, 2017	
6-3 Implement coordination with interconnected MS4s	Ongoing	The Town of Hebron continued to coordinate MS4 responsibilities with the Towns of Bolton, Andover, Columbia, Lebanon, Colchester, Marlborough and Glastonbury as well as Conn DOT.	Continuing	Kevin J. Kelly, Director, Department of Public Works	July 01, 2017	
6-4 Develop and implement a program to control other sources of pollutants to the MS4	Not Started	Currently no other sources of pollutants exist in Hebron.	Not Applicable	Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	Not Required	

Commented [LM30]: The permittee shall implement an operations and maintenance program for permittee- owned or –operated MS4s that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned or -operated MS4s (pg. 31)

Commented [LM31]: The existing 2004 MS4 permittees shall continue a formal employee training program to increase awareness of water quality related issues in management of its MS4. New MS4 permittees shall develop this program within two (2) years of the effective date of this general permit (pg. 31)

Commented [LM32]: Permittee-owned or -operated properties, parks, and other facilities that are owned, operated, or otherwise the legal responsibility of the permittee shall be maintained so as to minimize the discharge of pollutants to its MS4 (pg. 33)

Commented [LM33]: the Permittee shall coordinate with operators of interconnected MS4s (such as neighboring municipalities, institutions and DOT) regarding the contribution of potential pollutants from the storm sewer systems, contributing land use areas and stormwater control measures in the respective MS4s (pg. 38)

Commented [LM34]: The permittee shall develop and implement a program to control the contribution of pollutants to its MS4 from commercial, industrial, municipal, institutional or other facilities (pg. 38)

6-5 Evaluate additional measures for discharges to impaired waters*	Not Applicable	No impaired waters exist in the Town of Hebron.	Not Applicable	Thomas H. Fenton, P.E., Town Engineer, Nathan L. Jacobson & Associates, Inc.	Not Required	
6-6 Track projects that disconnect DCIA (Ongoing)	In Progress	2017 through 2022 - None	Will be done whenever possible.	Kevin J. Kelly, Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer		Redevelopment projects that result in DCIA reduction are rare in Hebron.
6-7 Implement infrastructure repair/rehab program (Due 07/01/21)	In Progress	2017 through 2022 - None	Moving to Compliance	Kevin J. Kelly, Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer		
	Schematic Designs Complete	2021 The University of Connecticut Stormwater Corps developed the Hebron Stormwater Runoff Reduction Plan and presented the plan in November. Several sites were considered in town and the University of Connecticut Stormwater Corps proposed LID retrofits at the following sites: Hebron Elementary School Russell Mercier Senior Center Hebron Town Office Building Veteran's Memorial Park RHAM Middle School	LID retrofits	Kevin J. Kelly, Director, Department of Public Works	November 2021	

Commented [LM35]: For waters for which Nitrogen or Phosphorus is a Stormwater Pollutant of Concern:
On Permittee-owned or -operated lands, implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report shall discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction.

For waters for which Bacteria is a Stormwater Pollutant of Concern:
On Permittee-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the permittee shall develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report shall identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(i), the cost of such retrofit or program, and the anticipated pollutant reduction.

On Permittee-owned or -operated lands, prohibit the feeding of geese or waterfowl and implement a program to manage geese and waterfowl populations. Each Annual Report shall discuss the actions taken to implement this program.

No additional requirements in addition to those specified in subsections (A)-(C) above exist for discharges to waters fo ...

Commented [LM36]: ...the permittee shall track on an annual basis the total acreage of DCIA that is disconnected as a result of redevelopment or retrofit projects within the MS4. Tracking the disconnection of DCIA means documenting within a given redevelopment or retrofit project the amount of existing DCIA that is modified such that it is disconnected (pg. 32)

Commented [LM37]: The permittee shall repair and rehabilitate its MS4 infrastructure in a timely manner to reduce or eliminate the discharge of pollutants from its MS4 to receiving waters (pg. 31)

		Burnt Hill Park and Gilead Hill School				
6-8 Develop and implement plan to identify/prioritize retrofit projects (Due 07/01/20)	To Be Developed	2017 through 2022 - None	Moving to Compliance	Kevin J. Kelly, Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer		
6-9 Implement retrofit projects to disconnect 2% of DCIA (Due 07/01/22)	To Be Developed	2017 through 2022 - None	Will be done whenever possible.	Kevin J. Kelly, Director, Department of Public Works and Nathan L. Jacobson & Associates, Inc., Town Engineer		Retrofit projects that result in DCIA reduction are rare in Hebron.
6-10 Develop and implement a street sweeping program (Ongoing)	Ongoing	The Town of Hebron currently implements a road sweeping program whereby all town roads are swept at one time per year.	Continuing	Kevin J. Kelly, Director, Department of Public Works	July 01, 2017	
6-11 Develop and implement a catch basin cleaning program (Ongoing)	Ongoing	The Town of Hebron currently implements a catch basin cleaning program whereby all catch basins are cleaned every year	Continuing	Kevin J. Kelly, Director, Department of Public Works	July 01, 2017	
6-12 Develop and implement snow management practices (Due 07/01/18)	Ongoing	See 6.3 Below	Continuing	Kevin J. Kelly, Director, Department of Public Works	July 01, 2017	

Commented [LM38]: On or before the end of third year after the effective date of this general permit, the permittee shall develop a plan to implement retrofit projects to meet the goals of this section. The permittee shall identify and prioritize sites that may be suitable for retrofit (pg. 32)

Commented [LM39]: By the end of this permit term, the permittee shall commence the implementation of the retrofit projects identified in subparagraph (b), above, with a goal of disconnecting one percent (1%) per year of the permittee's DCIA for the fourth and fifth years of this general permit, or a total of 2%, to the MEP (pg. 33)

Commented [LM40]: Establish and implement procedures for sweeping permittee-owned or - operated streets and parking lots. All streets and parking lots within the Urbanized Area of the MS4, and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters, shall be inspected, swept and/or cleaned (as necessary) with a minimum frequency of once per year in the spring following the cessation of winter maintenance activities (i.e. sanding, deicing, etc.) (pg. 35)

Commented [LM41]: The Permittee shall conduct routine cleaning of all catch basins. The Permittee shall track catch basin inspection observations.

Inspect all permittee-owned catch basins within the Urbanized Area of the MS4 and outside the Urbanized Area within the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters at least once by the end of the third year following the effective date of this general permit. Catch basins outside the Urbanized Area and outside the catchment areas of the MS4 with either DCIA of greater than 11% or which discharge to impaired waters shall be inspected by the end of the fifth year following the effective date of this general permit (pg. 36)

Commented [LM42]: The permittee shall implement and refine its standard operating practices regarding its snow and ice control to minimize the discharge of sand, anti-icing or de-icing chemicals and other pollutants (while maintaining public safety) (pg. 37)

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

Continue to have employees attend continuing education on DPW pollution prevention BMPs. Continue to implement road sweeping and catch basin cleaning operations town-wide.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	DPW Employees are encouraged to attend CT Technology Transfer (T2) Center training programs. 2017 - Rob Schadtle completed the Road Master Program which included training on Planning and Managing Local Road Snow and Ice Control Activities. Dillon Fournier completed the Public Works Academy which included training on Winter Operations and Safe Snow Plowing. 2018 - Shawn Covell and Zachary Smith completed the Public Works Academy which included training on Winter Operations and Safe Snow Plowing. 2019 - Austin Wosleger completed the Public Works Academy which included training on Winter Operations and Safe Snow Plowing. 2020 through 2021 - Due to the COVID-19 pandemic no employee training was conducted. 2022 - Carl Floran and Jeremy Hunniford completed the Public Works Academy. Kevin Kelly and Darren Norton completed the CT Technology Transfer (T2) Center Green Snow Pro training program. 2023 - It is anticipated that DPW employee training will occur.
Street sweeping	
Curb miles swept	154.46
Volume (or mass) of material collected	2017 - Was Not Estimated 2018 - 250± C.Y. 2019 - 250± C.Y. 2020 - 250± C.Y. 2021 - 250± C.Y. 2022 - 250± C.Y.
Catch basin cleaning	
Total catch basins in priority areas (value will be less than or equal to total catch basins town-wide)	To Be Determined
Total catch basins town-wide	1,573

Commented [LM43]: The existing 2004 MS4 permittees shall continue a formal employee training program to increase awareness of water quality related issues in management of its MS4 (pg. 31)

Commented [LM44]: In its Annual Report, the permittee shall document results of its sweeping program including, at a minimum: a summary of inspection results, curb miles swept, dates of cleaning, volume or mass of material collected, and method(s) of reuse or disposal. (pg. 36)

Commented [LM45]: The permittee shall report in each Annual Report the total number of catch basins, number inspected, number cleaned, the total volume or mass of material removed from all catch basins and, if practicable, the volume or mass of material removed from each catch basin draining to water quality limited waters (pg. 37)

Catch basins inspected	2017 through 2022 - 1,573
Catch basins cleaned	2017 through 2022 - 1,573
Volume (or mass) of material removed from all catch basins	2017 - 300-400± C.Y. 2018 - 250-300± C.Y. 2019 - 250-300± C.Y. 2020 - 250-300± C.Y. 2021 - 250-300± C.Y. 2022 - 250-300± C.Y.
Volume removed from catch basins to impaired waters (if known)	Not Applicable
Snow management	
Type(s) of deicing material used	Deicing Mix: Majority of Town: 2017 through 2020 - NaCl Salt treated with Ice B'Gone at the rate of 6-8 gallons per ton 2021 - Promelt Ultra 2000 treated salt. 2022 - NaCl Salt treated with Ice B'Gone at the rate of 6-8 gallons per ton Amston Lake Area: 4 Parts Sand to 1 Part NaCl Salt treated with Ice B'Gone at the rate of 6-8 gallons per ton
Total amount of each deicing material applied	Winter 2017 to 2018 - 1,400 Tons Treated NaCl and 50 C.Y. Sand Winter 2018 to 2019 - 513 Tons Treated NaCl Salt, 69 Tons of Sand/Treated NaCl Salt Mix and 10 Tons of untreated NaCl Salt. Winter 2019 to 2020 - 1,295 Tons Treated NaCl Salt, 72 Tons of Sand/Treated NaCl Salt Mix and 26 Tons of untreated NaCl Salt. Winter 2020 to 2021 - 1,200 Tons Treated NaCl Salt, 70 Tons of Sand/Treated NaCl Salt Mix and 10 Tons of untreated NaCl Salt Winter 2021 to 2022 - 1,200 Tons Treated NaCl Salt, 70 Tons of Sand/Treated NaCl Salt Mix and 120 Tons of untreated NaCl Salt. Winter 2022 to 2023 - 600 Tons Treated NaCl Salt, 35 Tons of Sand/Treated NaCl Salt Mix and 60 Tons of untreated NaCl Salt (all estimated).
Type(s) of deicing equipment used	Eleven Large Snow Plows/Spreaders and two small Snow Plows/Spreaders. Four of the eleven spreaders are ground-speed-controlled set at an application rate of 250-300 pounds per lane mile. The manually controlled spreaders are also calibrated annually before plowing season to an application rate of 250-300 pounds per lane mile.
Lane-miles treated (A lane-mile is a mile of roadway in a single driving lane)	154.46
Snow disposal location	Road Shoulders
Staff training provided on application methods & equipment	2017 through 2019 - Yes 2020 through 2021 - No

Commented [LM46]: In its Annual Report, the permittee shall document results of its snow removal program including, at a minimum: the type of staff training conducted on application methods and equipment, type(s) of deicing materials used; lane-miles treated; total amount of each deicing material used; type(s) of deicing equipment used; any changes in deicing practices (and the reasons for the change); and snow disposal methods (pg. 37)

	2022 - Kevin Kelly and Darren Norton completed the CT Technology Transfer (T2) Center Green Snow Pro training program 2023 - It is anticipated that DPW employee training will occur.
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	0 %
Reduction in turf area (since start of permit)	0 acres
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	
Cost of mitigation actions/retrofits	$0

6.4 Catch basin cleaning program

Provide any updates or modifications to your catch basin cleaning program.
There are 1,573 catch basins in the Town of Hebron. 2017 through 2022 - 1,573 catch basins, a hydrodynamic separator and sedimentation tanks were cleaned. As all structures are cleaned annually, no optimization methods are required.

6.5 Retrofit program

Briefly describe the Retrofit Program identification and prioritization process, the projects selected for implementation, the rationale for the selection of those projects and the total DCIA to be disconnected upon completion of each project. (Due 7/1/20)
Storm Drainage Retrofit prioritization will be given to stormwater outfalls that are known to result in soil erosion and sedimentation. Prioritization will be given to the outfalls within the impaired water drainage basins with particular emphasis placed on stormwater outfalls which are located on fine grained glacial till soils. The retrofit program will be prioritized based on setback distance from watercourse and/or waterbodies.

Describe plans for continuing the Retrofit program and how to achieve a goal of 1% DCIA disconnection annually in future years. (Due 07/01/22)
Based on information contained in the CT DEEP *Factsheet: Town of Hebron Water Quality and Stormwater Summary,* 839.55 acres of the town has an impervious area exceeding 12%. The DCIA for the town was computed to be 7.00 acres using methods contained in the paper entitled *Estimating Change in Impervious Area (IA) and Directly Connected Impervious Area (DCIA) for Massachusetts Small MS4 Permit*. The 2% reduction in DCIA will require a DCIA reduction of 0.140 acre by July 01, 2022. Land use files will be reviewed to determine disconnection of DCIA since July 01, 2012 for utilization in reaching the CT DEEP goal of 2% disconnection of DCIA by June 30, 2022.

Commented [LM47]: For waters for which Nitrogen or Phosphorus is a Stormwater Pollutant of Concern:
On Permittee-owned or -operated lands, implement a turf management practices and procedures policy which includes, but is not limited to, procedures for proper fertilizer application and the planting of native plant materials to lessen the amount of turf area requiring mowing and the application of chemicals. Each Annual Report shall discuss the actions taken to implement this policy with an estimate of fertilizer and turf reduction (pg. 38)

Commented [LM48]: For waters for which Bacteria is a Stormwater Pollutant of Concern:
On Permittee-owned or -operated lands with a high potential to contribute bacteria (such as dog parks, parks with open water, sites with failing septic systems), the permittee shall develop, fund, implement, and prioritize a retrofit or source management program to correct the problem(s) within a specific timeframe. Each Annual Report shall identify problem areas for which a retrofit or source management program were developed, the location of the closest outfall monitored in accordance with Section 6(i), the cost of such retrofit or program, and the anticipated pollutant reduction (pg. 38)

Commented [LM49]: The permittee shall document in the Plan and in the first Annual Report its plan for optimizing catch basin cleaning, inspection plans, or its schedule for gathering information to develop the optimization plan. Documentation shall include metrics and other information used to reach the determination that the established plan for cleaning and maintenance is optimal for the MS4. The permittee shall keep a log of catch basins cleaned or inspected (pg. 37)

Commented [LM50]: In the Annual Report for the third year of this general permit, the permittee shall report on its identification and prioritization process, the selection of the projects to be implemented, the rationale for the selection of those projects and the total DCIA to be disconnected upon implementation of the projects.

The permittee shall also provide in the Annual Report for the fifth year of this permit for continuation of the retrofit program and continue such program with a goal to ...

Part II: Impaired Waters Investigation and Monitoring

1. Impaired Waters Investigation and Monitoring Program

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

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 ☐

An unnamed pond in Gay City State Park is the only impaired water in the Town of Hebron.

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 only impaired water in the Town of Hebron is the unnamed pond in Gay City State Park. A partnership was formed with the Salmon River Watershed Partnership, Gay City State Park, UConn Master Gardeners and CT DEEP Parks whereby a vegetated buffer biofilter to deter Canada Geese and to filter stormwater runoff was constructed. Additional funds are being pursued for additional plantings and the installation of permanent public educational signage. In that the impaired water is in a State Park, the Town of Hebron does not need to investigate and monitor the bacteria impairment.

Commented [LM51]: Regulated Small MS4s that discharge to impaired waters, as identified in Section 6(k) below, must create an inventory of all outfalls that discharge to impaired waters utilizing the list and mapping prepared pursuant to Section 6(a)(3)(C). The permittee shall then screen these outfalls for the pollutant identified as the pollutant of concern for the impairment in accordance with the following procedures. If the permittee has wet weather sampling data for an outfall pursuant to their sampling conducted under the 2004 MS4 permit or other appropriate wet weather sampling, they may use that data for their outfall screening and will not be required to screen that outfall under this general permit (pg. 41)

The permittee shall report on the progress of their impaired waters investigation and monitoring program in their Annual Report beginning in the second year following the effective date of this general permit. The report shall include a listing of the outfalls screened during the year, the number of outfalls identified for follow-up investigation, the progress of drainage area investigations, a description of the control measure implementation for the different impairments, identification of the six outfalls to be monitored, and the results of the prioritized outfall monitoring (pg. 44)

2. Screening Data for Outfalls to Impaired Waterbodies (Section 6(i)(1) / page 41)

2.1 Screening Data

Complete the table below to report data for any wet weather sampling completed for MS4 outfalls that discharge directly to a stormwater impaired waterbody during the reporting period. For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the yellow column of the Monitoring comparison chart and the Impaired waters monitoring flowchart.

Each Annual Report will add on to the previous year's data showing a cumulative list of sampling data.

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

There are no Impaired Waters in the Town Hebron other than the State-owned Gay City State Park Pond which is being addressed by the State.

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

Pollutant of concern	**Pollutant threshold**
Nitrogen	Total N > 2.5 mg/l
Phosphorus	Total P > 0.3 mg/l
Bacteria (fresh waterbody)	• E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others • Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	• Fecal Coliform > 31 col/100ml for Class SA and > 260 col/100ml for Class SB • Enterococci > 104 col/100ml for swimming areas or 500 col/100 for all others
Other pollutants of concern	Sample turbidity is 5 NTU > in-stream sample

There are no Impaired Waters in the Town Hebron other than the State-owned Gay City State Park Pond which is being addressed by the State.

3. Follow-Up Investigations (Section 6(i)(1)(D) / page 43)

Provide the following information for outfalls exceeding the pollutant threshold.

Outfall ID	Status of drainage area investigation	Control measure to address impairment

There are no Impaired Waters in the Town Hebron other than the State-owned Gay City State Park Pond which is being addressed by the State.

4. Prioritized Outfall Monitoring (Section 6(i)(1)(D) / page 43)

Once outfall sampling 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, 2021.

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

There are no Impaired Waters in the Town Hebron other than the State-owned Gay City State Park Pond which is being addressed by the State.

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).

1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank
4701-04-1	11.35% Impervious	1

Commented [LM52]: The permittee shall assess and priority rank the catchments... in terms of their potential to have illicit discharges and SSOs and the related public health significance. This ranking will determine the priority order for screening of outfalls and interconnections..., catchment investigations for evidence of illicit discharges and SSOs... and provides the basis for determining permit milestones (Appendix B - pg. 5)

The permittee shall priority rank catchments within each category (except for excluded catchments), based on screening factors (Appendix B - pg. 6)

The IDDE program shall include a written procedure for screening and sampling of outfalls and interconnections from the MS4 in dry and wet weather for evidence of illicit discharges and SSOs (Appendix B - pg. 7)

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

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the blue column of the Monitoring comparison chart and the IDDE baseline monitoring flowchart.

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

2018 through 2020 - Dry weather screening and sampling was not conducted.
2021 - Dry weather screening of all outfalls was conducted. On the basis of dry weather screening, no observations were made that warranted sampling (i.e. no potential illicit discharges were observed).

2.2 Wet Weather Sample and Inspection Data

For details on this requirement, visit https://nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

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

Outfall or Interconnection ID	Latitude & Longitude	Sample Date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of Concern

2018 through 2022 - No wet weather inspection and sampling, where appropriate, was conducted.
2023 - It is anticipated that wet weather inspection and sampling, where appropriate, will be conducted.

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

For details on this requirement, visit www.nemo.uconn.edu/ms4/tasks/monitoring.htm. Refer to the green column of the Monitoring comparison chart and the IDDE catchment investigation flowchart.

3.1 System Vulnerability Factor Summary

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

Outfall ID	Receiving Water	System Vulnerability Factors

Where SVFs are:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages.
2. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs.
3. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints.
4. Common or twin-invert manholes serving storm and sanitary sewer alignments.
5. Common trench construction serving both storm and sanitary sewer alignments.
6. Crossings of storm and sanitary sewer alignments.
7. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system.
8. Sanitary sewer infrastructure defects such as leaking service laterals, cracked, broken, or offset sanitary infrastructure, directly piped connections between storm drain and sanitary sewer infrastructure, or other vulnerability factors identified through Inflow/Infiltration Analyses, Sanitary Sewer Evaluation Surveys, or other infrastructure investigations.
9. Areas formerly served by combined sewer systems.
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old in medium and densely developed areas.
11. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather 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).

3.2 Key Junction Manhole Dry Weather Screening and Sampling Data

Key Junction Manhole ID	Latitude & Longitude	Screening or Sampling Date	Visual/Olfactory Evidence of Illicit Discharge	Ammonia	Chlorine	Surfactants

2018 through 2022 - No junction manhole screening or sampling was conducted.

2023 - It is anticipated that junction manhole screening and sampling, where appropriate will be conducted.

3.3 Wet Weather Investigation Outfall Sampling Data

Outfall ID	Latitude & Longitude	Sample Date	Ammonia	Chlorine	Surfactants

2018 through 2022 - No wet weather outfall screening or sampling was conducted.

2023 - It is anticipated that wet weather screening and sampling, where appropriate, will be conducted.

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

2018 through 2022 - No potential illicit discharges were observed during dry weather screening of all town MS4 outfalls. Consequently, no sampling was conducted.

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: Andrew J. Tierney, Town Manager	Print Name: Wade M. Thomas, CPESC, CPSWQ, CPMSM
Signature: Date: April , 2023	Signature: Date: April , 2023
Email: atierney@hebronct.com	Email: wthomas@nlja.com