MS4 General Permit
Town of Glastonbury, Connecticut 2022 Annual Report
Existing MS4 Permittee
Permit Number GSM 000057
January 1, 2022 – December 31, 2022

Primary MS4 Contact:
Daniel A. Pennington, P.E., Town Engineer/ Manager of Physical Services (860)652-7736
Email: daniel.pennington@glastonbury-ct.gov

This report documents the Town of Glastonbury, Connecticut's efforts to comply with the conditions of the MS4 General Permit to the maximum extent practicable (MEP) from January 1, 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	Method of Distribution	Audience / Number of people reached	Measurable Goal	Department / Person Responsible	Additional details
1-1 Implement public education and outreach	1. Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site has been updated as required. 2. Stormwater Pollution Prevention social media campaign initiated through Town Facebook page.	Website Social Media	Website users TBD	Compliance with Section 6(a)(1) of the current General Permit	Engineering Division	Social Media campaign graphics are included in Appendix A.
1-2 Address education/ outreach for pollutants of concern*	1. Included bacteria related information on Town web site and other public ed. Materials. 2. Glastonbury's Health Department has continuously provided information to residents related to septic systems/maintenance located on the web page under Subsurface Sewage/Septic System Basics for Homeowners.	Website	Website users	Compliance with Section 6(a)(1)(C)(iii) of the current General Permit	Engineering Division	

	3. Distributed pet waste brochures with Dog Licenses.	Brochure	519 dog owners	Compliance with Section 6(a)(1)(C)(iii) of the current General Permit	Town Clerk / Engineering Division	Brochures were distributed with new dog licenses.
Additional BMP: 1-3 Public Education and Outreach	1. Town Staff and Regional Group participated in the Salmon River Watershed Partnership	Website, email, mailings	Regional Population		Office of Community Development / Environmental Planner	The 2022 Salmon River Watershed Partnership Outreach & Monitoring Activities Related to Stormwater & Water Quality Report is attached in Appendix A.

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

1-1. Provide additional updates to the Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site as necessary.
1-2. Continue distribution of printed pet waste management brochures in conjunction with dog license renewals.
1-3. Continue staff membership and involvement in the Salmon River Watershed Partnership.
1-4. Continue working with communications department to post timely news items in the spring related to stormwater pollution prevention awareness using the Town website and social media accounts.

1.3 Details of activities implemented to educate the community on stormwater

Program Element/Activity	Audience (and number of people reached)	Topic(s) covered	Pollutant of Concern addressed (if applicable)	Responsible dept. or partner org.
Stormwater Pollution Prevention page located on the Town of Glastonbury's Engineering Division web site	Residents/Business Owners/Developers	Stormwater pollution prevention awareness	Phosphorus, Nitrogen, and Bacteria	Engineering Division
Stormwater Pollution Campaign initiated through town social media accounts.	Town Facebook followers	Vehicle washing, pet waste, fertilizing, and leaking oil.	Phosphorus, Nitrogen, and Bacteria	Engineering Division / Communications Dept.
Pet waste brochure distributed with new Dog Licenses by Town Clerks Office	Approximately 519 brochures distributed in 2022.	Pet Waste	Bacteria	Engineering Division / Town Clerk
Continued staff membership and involvement in the Salmon Brook Watershed Partnership	Students, Watershed Community	Watershed protection, Clean-ups, Student groups/Membership collaborative studies	Watershed Protection	Town of Glastonbury Environmental Planner and the Salmon River Watershed Partnership

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	Department / Person Responsible	Date completed or projected completion date	Location Posted	Additional details
2-1 Final Stormwater Management Plan publicly available	Ongoing	No activity.	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Engineering Division	May 8, 2017	Website link to SWMP	Stormwater Management Plan was issued for review on May 8, 2017 and Finalized July 1, 2017
2-2 Comply with public notice requirements for Annual Reports (annually by 2/15)	In Progress	Postings on Town website completed.	Compliance with Section 4(d)(2) and Section 6(a)(2)(A) of the General Permit	Engineering Division	January 31, 2023 (Notice on Website) February 15, 2023 (draft report posted) April 1, 2023 (submitted to DEEP)	Town website	
Additional BMP: **2-3 Public Participation**	Ongoing /Yearly	See additional details.	Allows residents to properly dispose of Household Hazardous Wastes	Sanitation/Refuse Division	April 2, 2022 May 14, 2022 June 4, 2022 July 20, 2022 August 27, 2022 September 24, 2022 October 29, 2022 November 12, 2022	Household Hazardous Waste Collection Town of Manchester (manchesterct.gov)	Participated in the Capitol Region East Operating Committee (CREOC) Household Hazardous Waste Collection days.
Additional BMP: **2-4 Public Participation**	Ongoing /Yearly	Town Staff participation	Preserve the integrity of the 96,000 Acre Salmon River Watershed	Office of Community Development and Environmental Department/ Environmental Planner	Yearly Membership and town staff representation	Salmon River Watershed Partnership Website link	The 2022 Salmon River Watershed Partnership Outreach & Monitoring Activities Related to Stormwater & Water Quality Report is attached in Appendix A

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

2-3. Annual participation in the Capitol Region East Operating Committee (CREOC) Household Hazardous Waste Collection days located adjacent to the Manchester Landfill on Olcott Street.

2-7. Continued staff membership and participation in the Salmon River Watershed Partnership.

2.3 Public Involvement/Participation reporting metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan to the public	Yes	May 8, 2017	Website link
Availability of this Annual Report announced to public Draft Annual Report published to Town Website Final Annual Report published to Town Website	Yes Yes Yes	January 31, 2023 February 15, 2023 April 1, 2023	
Town Staff and Regional Group participation in the Salmon River Watershed Partnership	Yes	Yearly membership and participation	http://www.salmonriverct.org/

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	Department / Person Responsible	Date completed or projected completion date	Additional details
3-1 Develop written IDDE program (Due 7/1/19)	Completed	No activity.	Written plan of IDDE program	Engineering Division	2/1/2019	IDDE Plan has been completed and is now available on the Town web site.
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas (Due 7/1/20)	Completed	No activity.	Mapped outfalls and drainage system	Engineering Division	7/1/2019	Click here for direct link to outfall mapping
3-3 Implement citizen reporting program (Ongoing)	Ongoing	No activity.	Implement and track citizen reporting of stormwater pollution	Engineering Division	Ongoing throughout the duration of the permit	Citizen reporting is available and can be found at: https://glastonburyct.qscend.com/311/request/add No pollution related complaints have been received via this system to date.
3-4 Establish legal authority to prohibit illicit discharges	Completed	No activity.	Establish legal authority to prohibit illicit discharges	Engineering Division	2010	Illicit Discharge and Connection Stormwater Ordinance is located in Chapter 19, Article III, Sections 19-251 thru 19-275.
3-5 Develop record keeping system for IDDE tracking	Completed	No activity.	Develop IDDE tracking tool	Engineering Division	7/1/2017	
3-6 Address IDDE in areas with pollutants of concern	Ongoing	See details.	Identify and correct IDDE in areas with pollutants of concern	Engineering Division	Ongoing	A suspected illicit discharge of a cross connected sewer lateral was identified on Naubuc Avenue and was disconnected in 2022.

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

The written program has been posted to the Town of Glastonbury's Engineering Division web site.

Maintain 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 occurring during the reporting period and SSO's occurring July 2017 through the 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 and 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)
2687 Main Street/Naubuc Avenue Katz Hardware	Originally a connection to a combined sewer system. Disconnected in 1/2015	Illicit Discharge into MS4 storm drainage system.	Unknown	Old combined sewer system connection which was identified by the Public Works Dept and disconnected in 2015	Single bathroom located at 2687 Main Street that was connected to an old combined sewer system located on Naubuc Avenue that remained connected to the storm sewer as part of a sewer separation incorporated in a reconstruction project of Naubuc Avenue in the 1970's. Illicit discharge was identified by the Town of Glastonbury Public Works and disconnected by the property owner in 2015.	None
104 Benton Lane	03/03/2013 12:30 P.M. to 2:15 P.M.	SSO-surcharged manhole	200-300 Gallons	Blockage from rags in pump station wet well. Cleaned ASAP to relieve surcharge	By Pass system which had been installed during pump station upgrade construction activity removed on 3/4/2013. Cleaned ASAP to relieve Surcharge. Hand spread Limed area around manhole.	None
116 Oak Street	08/23/2013 2:00 P.M. to 5:00 P.M.	SSO to Hubbard Brook	150-250 Gallons	Concrete at the end of lateral connection	Sewer line will require reconstruction. Sewer lateral will need to be reconstructed.	None
Tall Timbers Road	09/14/2014 No start time to 10:30 A.M.	SSO-Private force main leaking below grade	21,500 Gallons (Est.)	Broken 1 ¼" private force main lateral	Broken pipe repaired by town highway staff. Pipe repaired and suggested pressure testing of the line by homeowner (Private system).	None
1909 Main Street	08/09/2014 7:00 A.M. to 9:00 A.M.	SSO-surcharged manhole	500 Gallons	Grease blockage in 8" sewer line	Blockage in sewer line relieved by jet truck, upon release completed jetting. Applied bleach to area around manhole and ground.Added location to Towns routine jetting schedule.	None

2333 Main Street	02/25/2015 11:40 A.M. to 4:30 P.M.	SSO- surcharged manhole in parking lot- Private	Unable to determine	Grease and Root blockage	Property owner arranged with contractor to clear blockage by flushing and root cutting. Routine flushing and root cutting.	None
2756 Main Street	09/04/2016 12:45 P.M. to 1:40 P.M.	SSO- surcharged manhole- Salmon Brook	5,000 Gallons	Electrical failure at Pump Station	Restored Pump Station Operation quickly.	None
3025 Main Street	08/07/2017 1:00 P.M. to 5:00 P.M.	SSO- surcharged manhole-Pump Station	Unknown	Mechanical equipment failure	Burger King regional manager notified to evaluate and repair the reoccurring problem. Repairs made to eliminate future overflows.	None
28 Talcott Road	05/04/2017 6:38 P.M. to 7:15 P.M.	SSO- surcharged manhole/sewer main overflowed into catch basin	Unknown	Grease blockage in sewer main	Jetted and flushed sewer main. Frequent inspection of town sewer main.	None
76-78 Hollister Way South Meadow Hill Condominiums	12/18/2018 3:00 PM to 6:00 PM	SSO- sewer backup and overflow discharge in basement of private property	250 Gallons	Blockage in Towns sewer line on Main Street due to pipe joint separation and soil infiltration	Sewer pipe joint was repaired and sewer line was flushed and televised by Highway Dept. staff to relieve blockage.	None
120 Hebron Avenue Eric Town Square	7/30/2019 9:44 PM	Restaurant grease disposal into an on-site catch basin	25 Gallons	Employees dumping grease into a catch basin	Patron notified CTDEEP of incident. CTDEEP Case No. 2019-03568. CTDEEP personnel required property owner to hire a company to clean all effected on-site storm drainage pipes and structures. Notice of violation letter sent to property owner from the WPCA requiring tenants to educate their employees on proper grease disposal.	None
2327-2233 Main Street	Ongoing, unknown duration.	Illicit Discharge into MS4 storm drainage system on Naubuc Avenue.	Unknown	Cross connected sewer lateral into former combined system.	Sewer disconnection a lateral for this property from the former combined sewer system and re-connection to the active sanitary sewer system was completed August 2022 under E20-Annual Paving Program- Storm Drainage and Sanitary Sewer Rehabilitation Project 2022.	None

Note: Data listed above is derived from copies of a Sewage By-Pass Notification Report as submitted to State of Connecticut DEEP Bureau of Water Management.

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
Health Department Septic System Repair Records Engineering Division Records CT DEEP Sewer By-Pass Notification Report	Angus Pond Residential Septic Systems within the drainage basin	Within the Angus Pond drainage basin Health Department records indicate that 3 septic repair or replacement was done in 2022.	Angus Pond DEEP Basin ID: 4009-00-2-L4	**Health Department:** Director of Health Wendy Mis, MPH, RS **Engineering Division:** Assistant Town Engineer Stephen M. Braun, P.E.
Health Department Septic System Repair Records Engineering Division Records CT DEEP Sewer By-Pass Notification Report	Connecticut River Residential Septic Systems within the drainage basin	Within the Connecticut River drainage basin Health Department records indicate that 4 septic system repairs or replacements were done in 2022.	Connecticut River DEEP Basin ID: 4009-00-6-R16	**Health Department:** Director of Health Wendy Mis, MPH, RS **Engineering Division:** Assistant Town Engineer Stephen M. Braun, P.E.

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

The Engineering Division has a spreadsheet to track illicit discharges that are reported to us and to the CT DEEP via the Sewage Bypass Notification Report process. This data is then included with the MS4 Annual Report. There are not many illicit discharges reported so the spreadsheet is functional for tracking purposes.

3.6 IDDE reporting metrics

Metrics	
Estimated or actual number of MS4 outfalls	Approximately **976±** total outfalls
Estimated or actual number of interconnections	**28** interconnections have been identified with ConnDOT drainage systems.
Outfall mapping complete	**100%** -Catch Basins/Manholes/ Pipes/Outfalls Mapping can be found on the Town GIS System using the following link: Outfall Mapping
Interconnection mapping complete	**100%**
System-wide mapping complete (detailed MS4 infrastructure)	**100%**
Outfall assessment and priority ranking for IDDE Plan	**100% - See APPENDIX C**
Dry weather screening of all High and Low priority outfalls complete	23 Outfalls were screened in 2022 for bacteria indicator using an ammonia test kit.
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	0

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 is it given (minimum once per year).

A review of dry weather screening procedures was conducted with Engineering Inspection Staff at a kick-off meeting held on December 6, 2021 in preparation for dry weather screening of town-wide outfalls in 2022.

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**	**Department / Person Responsible**	**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 7/1/22)	Completed/Ongoing	All proposed development projects were reviewed for compliance with land use regulations.	Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit.	Office of Community Development and Environmental Department Engineering Division Building Inspection/Zoning Enforcement	Continued implementation	Existing Land Use regulations related to the control of erosion and sediment from construction sites can be found in Section 19 of the Town Building - Zone Regulations and Section 15 of the Town Subdivision and Resubdivision Regulations.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval (Ongoing)	Completed/Ongoing	All proposed development plans were reviewed by various departments for conformance to the above referenced regulations.	Develop/Implement plan for interdepartmental coordination in site plan review and approval.	Engineering Division Office of Community Development and Environmental Department Building Inspection/Zoning Enforcement	Continued implementation	See Stormwater Management Plan for additional details.
4-3 Review site plans for stormwater quality concerns (Ongoing)	Completed/Ongoing	All proposed development plans were reviewed for conformance with stormwater quality best management practices.	Review site plans for stormwater quality concerns.	Engineering Division Office of Community Development and Environmental Department	Continued implementation	See Stormwater Management Plan for additional details.
4-4 Conduct site inspections (Ongoing)	Completed/Ongoing	E&S inspections and enforcement was conducted by Office of Office of Community Development staff.	Conduct site inspections	Engineering Division Office of Community Development and Environmental Department	Continued implementation	

4-5 Implement procedure to allow public comment on site development (Ongoing)	Completed/Ongoing	Public input is a regular part of all development application approvals.	Implement procedure to allow public comment on site development	Office of Community Development and Environmental Department	Continued implementation	See Stormwater Management Plan for additional details.
4-6 Implement procedure to notify developers about DEEP construction stormwater permit (Ongoing)	Completed/Ongoing	Notifications to developers were completed as part of conditions of approval for local regulatory permits.	Developers are all notified about DEEP construction stormwater permit	Engineering Division Office of Community Development and Environmental Department	Continued implementation	
Additional BMP: **4-7 Engineering Division plan review stormwater compliance checklist (Ongoing)**	Completed/Ongoing	Reviewed developments for compliance with our checklist.	Standardize plan review related to stormwater compliance	Engineering Division	Continued implementation	Standardized internal plan review checklist for all proposed developments which includes stormwater management compliance parameters.

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

4.1. Continued enforcement of land use regulations to meet requirements of MS4 general permit.
4.2. Continued interdepartmental coordination for the review and approval of all proposed development plans.
4.3. Continued review of all proposed development plans related to stormwater quality concerns.
4.4. Continued site inspections**.**
4.5. Continued implementation of the current procedure to allow public comment on site development.
4.6. Continued implementation of the current procedure to notify developers about DEEP construction stormwater permit.
4.7. Continued use of the internal plan review stormwater compliance checklist.

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**	**Department / Person Responsible**	**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 7/1/22)	In progress	No activity.	Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Office of Community Development Engineering Division	In Progress.	The Town will review the need for additional legal authority / regulations that may be required to meet the intent of this permit. See Stormwater Management Plan Section 5.1 for additional information.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects (Due 7/1/22)	Ongoing/In progress	LID and runoff reduction requirements have been implemented on all approved development projects over the past year.	Enforce LID/runoff reduction requirements for development and redevelopment projects.	Office of Community Development Engineering Division	Ongoing.	Current Town policy requires consideration of LID and runoff reduction measures as well as treatment of the appropriate portion of the Water Quality Volume for all development and redevelopment projects.
5-3 Identify retention and detention ponds in priority areas	Completed	No activity.	Identify retention and detention ponds in priority areas.	Engineering Division	Completed 7/1/2019	121 detention ponds have been mapped and are accessible via the GIS.
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	In progress	Inspection and maintenance operations were performed on 7 detention ponds in 2022.	Implement long-term maintenance plan for stormwater basins and treatment structures.	Physical Services/Highway Division Parks Department Engineering Division	Underway, maintenance work is ongoing and is a long-term project.	**GIS Pond ID # - Completed 2022:** OP10-1173 – Fall/ 2022 HI50-300 – Dec./ 2022 LE15-1068 – June/ 2022 NE15-2231 – Fall/ 2022 OL30-4774 – Fall/ 2022 NYSL-80 – June/ 2022 NYSL-82 – June/ 2022

5-5 DCIA mapping	Completed	No activity.	DCIA mapping / calculation	Engineering Division	7/1/2020	The baseline DCIA for the entire Town was computed to be 1,094 acres out of a total of 2,622 acres of IC (exclusive of DOT Roads). These numbers were derived from DEEP sub-regional drainage basin data with IC values reports from 2012. See Appendix B for details.
5-6 Address post-construction issues in areas with pollutants of concern	In progress	No activity.	Address post-construction issues in areas with pollutants of concern.	Engineering Division	Continuously ongoing throughout the duration of the permit.	The Town of Glastonbury will prioritize problem areas for correction under minimum control measure 6 – Pollution Prevention/Good Housekeeping.

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

5-1. Engineering will develop draft updates to the current Town regulations and policies to meet or exceed those LID and runoff reduction practices required under this permit and in accordance with the CT Stormwater Quality Manual, Glastonbury's land use regulations, guidance or construction project requirements.
5-2. Continued enforcement of LID/runoff reduction/water quality treatment on all approved development and redevelopment project.
5-3. Continue field inspections and maintenance of all municipality owned retention and detention ponds within the priority areas and throughout the entire town.
5-4. Continue Implementation of a long term maintenance plan for all municipally owned stormwater basins and treatment structures.
5-6. Continued inspections to address construction issues in areas with pollutants of concern.

5.3 Post-Construction Stormwater Management reporting metrics

Metrics	
Baseline (2012) Directly Connected Impervious Area (DCIA)	1,067.40 Acres
DCIA disconnected (redevelopment plus retrofits)	DCIA disconnected (approved projects) Total to Date = 31.2 acres 2022 – 1.25 acres 2021 - 3.71 acres 2020 –0.96 acres 2019 – 3.64 acres 2018 – 0.94 acres 2017 – 9.41 acres 2016 – 0.00 acres 2015 to 2011 – 11.24 acres
Retrofits completed	101 acre drainage area (4.04 acres DCIA) disconnected under Dug Road / Tryon Street Drainage Project, WQC-201206157.
DCIA disconnected	2.9% total since 2012
Estimated cost of retrofits	(unknown at this time)
Detention or retention ponds identified	121 ponds

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

DCIA for each local drainage basin area within the Town was computed using GIS based IC data provided by CTDEEP through the UCONN CLEAR / NEMO website. Each basin was characterized for the type of land-use contained therein and DCIA was computed using the Sutherland Equations and the basin IC (exclusive of the DOT Roads). See Appendix B for the Town of Glastonbury baseline DCIA calculation spreadsheet.

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**	**Department / Person Responsible**	**Date completed or projected completion date** (Include the start date for anything that is "In Progress")	**Additional details**
6-1 Develop/implement formal employee training program (Ongoing)	Completed/Ongoing	Highway Department Training: March 9, 2022 Parks Department Training: February 2022	Develop/implement formal employee training program	Physical Services/Highway Division Parks Department	Continuously ongoing throughout the duration of the permit.	Training materials consist of generalized stormwater pollution prevention video, review of facility specific Stormwater Pollution Prevention Plans, and other department specific training related to specific maintenance activities (salt application, fertilizer application, etc).
6-2 Implement MS4 property and operations maintenance (Ongoing)	In progress	Parks Dept. continued to implement guidelines to reduce fertilizer applications at Town Facilities.	Implement MS4 property and operations maintenance	Physical Services/Highway Division Parks Dept. Sanitation Dept. Facilities Dept.	Ongoing/In Progress	See Stormwater Management Plan for additional details.
6-3 Implement coordination with interconnected MS4s (Ongoing)	In progress	No activity in the current reporting period.	Implement coordination with interconnected MS4s	Engineering Division	As needed pending completion of testing and catchment investigations	The Town of Glastonbury will coordinate with operators of interconnected MS4s as necessary if testing / investigation of catchment area determines need.
6-4 Develop/implement program to control other sources of pollutants to the MS4 (Ongoing)	On going	Nitrogen loading computations received for applications in the groundwater protection zones.	Develop/implement program to control other sources of pollutants to the MS4	Engineering Division	On going	Program to control nitrogen in GW protection Zones is in place. No other problematic pollutants identified for specific control at this time.

6-5 Evaluate additional measures for discharges to impaired waters* (Ongoing)	In progress	No activity in the current reporting period.	Evaluate additional measures for discharges to impaired waters*	Engineering Division	In progress	Signage is in place at the dog park and other public parks regarding the need to pick up pet waste. Bags are also provided for use by pet owners. Additional measures will be considered.
6-6 Track projects that disconnect DCIA (Ongoing)	In progress/Ongoing	Tracking spreadsheet updated with developments approved in 2022.	Track projects that disconnect DCIA	Engineering Division	In progress	Based on current tracking statistics approximately 30 acres of DCIA will be disconnected as part of an approved project through December 2022.
6-7 Implement infrastructure repair/rehab program (Ongoing)	In progress	No activity in the current reporting period.	Implement infrastructure repair/rehab program	Engineering Division Physical Services/Highway Division	No progress to date. Identification pf problem areas is pending additional stormwater testing	The Town of Glastonbury will continue a program to identify MS4 structures to repair, rehabilitate, or upgrade to reduce or eliminate the discharge of pollutants into water bodies.
6-8 Develop/implement plan to identify/prioritize retrofit projects	On hold.	No activity in the current reporting period.	Develop/implement plan to identify/prioritize retrofit projects	Engineering Division Physical Services/Highway Division	On hold.	2% DCIA reduction has already been achieved within the permit period mostly through redevelopment projects. The Town will monitor this moving forward and assess the need for a retrofit program.
6-9 Implement retrofit projects to disconnect 2% of DCIA	On hold.	No activity in the current reporting period.	Implement retrofit projects to disconnect 2% of DCIA	Engineering Division Physical Services/Highway Division	On hold.	2% goal has already been met. Implementation of retrofit projects is not necessary at this time.

6-10 Develop/implement street sweeping program (Ongoing)	Ongoing	1,985 curb miles were swept in 2022 and approximately 989 CY of material was collected and disposed of.	Develop/implement street sweeping program	Physical Services/Highway Division	On going	
6-11 Develop/implement catch basin cleaning program (Ongoing)	Ongoing	All catch basins were inspected annually for blocked grates and structural problems.	Develop/implement catch basin cleaning program	Physical Services/Highway Division	Ongoing throughout the duration of the permit	Approximately 6,772 catch basins were inspected and 103 were cleaned as part of the annual paving program and based on locations where routine sediment buildup has been noted. See 6.4 for more information.
6-12 Develop/implement snow management practices (Ongoing)	Ongoing	Approximately 24,498 lane miles were treated with the use of computer controlled spreaders with ground speed control to meter amount of material applied and automatically stops application when truck stops moving.	Develop/implement snow management practices	Physical Services/Highway Division	Ongoing throughout the duration of the permit	Snow and ice management training implemented for every storm event, management directs employee's when to apply salt for pre-treating and during a winter event. Spreaders are set to apply 350-500 lbs./lane mile. Flat routes set at 350 lbs /lane mile while higher hilly terrain set at 500lbs/lane mile.

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

6-1. Continue training program in 2023.
6-2. Continued implementation of MS4 property and operations maintenance.
6-3. Begin coordination with interconnected MS4s including ConnDOT as necessary based on outfall testing and catchment investigations.
6-4. Determine the need for control of other sources of pollutants.
6-6. Continued tracking of projects that disconnect DCIA.

6.3 Pollution Prevention/ Good Housekeeping reporting metrics

Metrics	
Employee training provided for key staff	Highway Dept. staff – March 9, 2022 Parks Dept. staff – February, 2022
Street sweeping	
Curb miles swept	1,895 miles
Volume (or mass) of material collected	989 C.Y.
Catch basin cleaning	
Total catch basins in priority areas	6,373 ±
Total catch basins in MS4	6,772 ±
Catch basins inspected	6,772±
Catch basins cleaned	103 (2.5% of MS4 CBs)
Volume (or mass) of material removed from all catch basins	85 C.Y.
Volume removed from catch basins to impaired waters (if known)	Unknown
Snow management	
Type(s) of deicing material used	Treated Salt Blend
Total amount of each deicing material applied	3,718 Tons Highway Dept. Approx. 200 Tons Parks Dept. (includes 4 tons bagged ice-melt for sidewalks).
Type(s) of deicing equipment used	Computerized Spreaders with ground speed control (Highway Dept. Only)
Lane-miles treated	24,498 lane miles
Snow disposal location (when required)	Riverfront Park-200 Welles Street
Staff training provided on application methods & equipment	Yes-Implemented for every storm event (Parks and Highway Dept.)
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)	Glastonbury Riverfront Dog Park-Welles Street
Cost of mitigation actions/retrofits	N/A

6.4 Catch basin cleaning program

Provide any updated or modifications to your catch basin cleaning program.
Catch basins are routinely inspected when debris is removed from top grates before all significant rain events. Thorough full depth inspections/vacuum cleaning conducted on all basins located in annual paving program areas, all repairs/rebuilds noted and completed before paving begins. Basins identified as needing regular maintenance/cleaning are placed on a routine annual or semi-annual cleaning. The Town of Glastonbury is in the process of refining its existing annual catch basin cleaning program to implement better ways of tracking the number of catch basins cleaned and quantities of material removed through the use of GIS software and field tablets.

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.
At this time we believe that 2% DCIA disconnection goals will be met without the need of a separate Retrofit program due to the pace of redevelopment projects currently underway in Town. The Town will continue to monitor this and will develop a retrofit program if MS4 Permit goals are not being met through redevelopment.

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. This data is available on the MS4 map viewer: http://s.uconn.edu/ctms4map.

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

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.
Glastonbury has two impaired water bodies in Town, Angus Pond and the CT River, which are both impaired due to bacteria. 25 outfalls were identified that drain directly to these water bodies which were all screened for bacteria using an ammonia test kit in February and March of 2018. Five (5) of these outfalls exceeded 0.5 mg/l of Ammonia and therefore require follow up testing. No additional testing was performed in 2019. In 2020, 23 of the above referenced outfalls to impaired waterbodies were lab tested by state certified Phoenix Environmental Laboratories, Inc. through a consultant contract with Anchor Engineering Services, Inc. Screening data is listed below in Section 2.1-Screening Data.

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

2.1 Screening data

Complete the table below for any outfalls screened during the reporting period. Each Annual Report will add on to the previous year's screening data showing a cumulative list of outfall screening data.

Outfall ID	**Sample date**	**Parameter** (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	**Results**	**Name of Laboratory (if used)**	**Follow-up required?**
NA25-3213	4/13/2020 9:04am	Bacteria	10 MPN/100 mls	Phoenix Environmental Laboratories, Inc.	No
NA25-200	4/13/2020 9:22am	Bacteria	41 MPN/100 mls	Phoenix Environmental Laboratories, Inc.	No
NA25-2919	4/13/2020 9:37am	Bacteria	31 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
NA25-3425	4/13/2020 9:47am	Bacteria	4,350 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
TR30-10480	4/13/2020 10:46am	Bacteria	862 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes

TR30-11044	4/13/2020 11:04am	Bacteria	10 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
MA15-8819	4/13/2020 12:16pm	Bacteria	882 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
MA20-1382	4/13/2020 12:44pm	Bacteria	41 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
SH50-1512	4/13/2020 13:30pm	Bacteria	52 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
RT83-19028	4/13/2020 13:12pm	Bacteria	107 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
WE20-3484	4/24/2020 11:18am	Bacteria	31 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
RFBH-010	4/24/2020 11:38am	Bacteria	10 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
ST35-1046	4/24/2020 12:04pm	Bacteria	145 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
TR30-5308	4/24/2020 12:30pm	Bacteria	912 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
TR30-4044	4/24/2020 12:49am	Bacteria	97 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
Tryon Street 1	6/11/2020 17:00pm	Bacteria	>48,400 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
Tryon Street 2	4/24/2020 13:09pm	Bacteria	10 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
WE40-791	4/24/2020 13:31pm	Bacteria	74 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
MA15-8193	4/24/2020 13:50pm	Bacteria	1,520 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
NA25-4437	4/24/2020 14:37pm	Bacteria	41 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	No
NA25-4481	4/24/2020 15:12pm	Bacteria	727 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.	Yes
RFBH-044	6/11/2020 16:37pm	Bacteria	>48,400 MPN/ 100 mils	Phoenix Environmental Laboratories, Inc.	Yes
RFPK-018	6/11/2020 16:27pm	Bacteria	9,770 MPN/ 100 mils	Phoenix Environmental Laboratories, Inc.	Yes

*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

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

Provide the following information for outfalls exceeding the pollutant threshold.

The systems listed below that tested above the allowable levels of bacteria were cleaned by the Highway department in November / December of 2021. These systems will be re-tested by a lab in the Spring of 2023 and if they continue to be elevated for bacteria then catchment investigations will be carried out by the Town.

Outfall	Status of drainage area investigation	Control measure implementation to address impairment
NA25-3425	NONE COMPLETED TO DATE.	
TR30-10480	NONE COMPLETED TO DATE.	
MA15-8819	NONE COMPLETED TO DATE.	
TR30-5308	NONE COMPLETED TO DATE.	
Tryon Street 1	NONE COMPLETED TO DATE.	
MA15-8193	NONE COMPLETED TO DATE.	
NA25-4481	NONE COMPLETED TO DATE.	
RFBH-044	NONE COMPLETED TO DATE.	
RFPK-018	NONE COMPLETED TO DATE.	

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.

2021 Testing was not performed at these outfalls. Sampling will be performed in 2022.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
Tryon Street 1	6/11/2020	Bacteria	➢ 48,400 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.
RFBH-044	6/11/2020	Bacteria	➢ 48,400 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.
RFPK-018	6/11/2020	Bacteria	9,770 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.
NA25-3425	4/13/2020	Bacteria	4,350 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.
TR30-5308	4/24/2020	Bacteria	912 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.
MA15-8819	4/13/2020	Bacteria	882 MPN/ 100 mls	Phoenix Environmental Laboratories, Inc.

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
SEE ATTACHED TABLE	*FROM IDDE PLAN IN*	*APPENDIX C*

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
OL30-4100	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
TR30-8266	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
BWFT-3	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
BWFT-7	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
TR30-4740	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken

TR30-1514	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
TR30-154	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
TR30-218	12/20/2022	NA							Bacteria	No Flow Observed No Sample Taken
PA05-1260	1/13/2022	NA							Bacteria	No Flow Observed No Sample Taken
RI30-82	1/13/2022	NA							Bacteria	No Flow Observed No Sample Taken
HO50-1021	1/13/2022	0.25 PPM							Bacteria	No
RE15-1177	1/13/2022	NA							Bacteria	No Flow Observed No Sample Taken
RE15-1221	1/13/2022	NA							Bacteria	No Flow Observed No Sample Taken
HI35-480	1/13/2022	NA							Bacteria	No Flow Observed No Sample Taken
LI30-1928	1/13/2022	0.20 PPM							Bacteria	No
MA15-14620	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
MA15-14920	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
HI45-81	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
MA15-16453	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
MA15-16621	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
MA15-16615	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
AR20-803	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken
MA15-14578	1/12/2022	NA							Bacteria	No Flow Observed No Sample Taken

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
NONE TO DATE									

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
	SEE ATTACHED TABLE IN	*APPENDIX C*

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	Screening / Sample date	Visual/ olfactory evidence of illicit discharge	Ammonia	Chlorine	Surfactants
NONE TO DATE					

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants
NONE TO DATE				

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
NONE TO DATE							

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: Richard J. Johnson, Town Manager	Print name: Daniel A. Pennington, P.E., Town Engineer
Signature / Date:	Signature / Date:

APPENDIX A

Town Social Media SWPPP Campaign Information

2022 Salmon River Watershed Partnership
Outreach & Monitoring Activities

Stormwater Pollution Prevention Social Media Campaign
www.Glastonburyct.gov/stormwater

Post 1: Post on 3/25 at 1:06pm

Spring time means spring cleaning! The Town encourages all local business owners to sweep their parking lots and rid them of any debris/substances that could potentially wash away into the town storm drains! Keeping lawn fertilizers, de-icers and other substances OUT of the storm drains helps keep Glastonbury water sources free from pollution!

Business owners are also encouraged to clean parking lot drainage systems (e.g. catch basins, swales, etc.) once per year to rid them of accumulated sediment and debris. Please spread the word and thank you for doing your part to prevent stormwater pollution!

.

.

#stormwaterpollutionprevention #sweep #cleanwater #themoreyouknow #doyourpart

Post date:
3/28 at 1:00pm

Storm drains are designed for rain, nothing more! When you take your pet for a walk, always be sure to bring waste bags along and dispose of waste in the nearest trash barrel. NEVER throw pet waste bags, or any item, into the storm drains! These drains feed directly into Glastonbury's local water sources and pollutants like pet waste can be harmful to all of us! Keep our community clean and dispose of pet waste properly.
Visit www.Glastonburyct.gov/stormwater for more information.
.
.
#stormwaterpollutionprevention #cleanwater #themoreyouknow #doyourpart

Post date:
4/6 at 10:30 am

When you wash your car in the driveway or any paved surface, the soap and cleaning substances spread down the street and into the storm drains and eventually end up in Glastonbury's bodies of water.

By washing your car on gravel or grass surfaces, or in a commercial car wash, you're helping to reduce these pollutants! As the weather gets warmer, keep this in mind and spread the word to your neighbors! Visit www.Glastonburyct.gov/stormwater for more information.
.
.
#cleanwater #stormwaterpollutionprevention
#themoreyouknow #doyourpart

Post 2: Post on 4/15 at 1PM

Storm sewers drain directly into streams, lakes, and other local bodies of water. If you throw pet waste, garbage, or other pollutants down the storm drain, it is passed along uncleaned to other water sources!

If you wouldn't want to drink it or bathe in it, don't put it in the storm drain! Find the nearest trash barrel and do your part to keep our community healthy! Visit www.Glastonburyct.gov/stormwater for more information. .
.
.
#stormwaterpollutionprevention #cleanwater #themoreyouknow #doyourpart

Post date:
4/24 at 11:00am

Did you know that heavy rain can cause excess fertilizer to pass into storm drains and travel to Glastonbury's local bodies of water? The fertilizer can actually effect oxygen levels for various fish species and pollutes water for town residents. When planning your lawn fertilization, check the weather and be sure to avoid times before heavy rain/severe storms. It's also best practice to sweep up excess fertilizer from paved surfaces to ensure it doesn't end up in our storm drains/water sources. Visit www.Glastonburyct.gov/stormwater for more information.

.

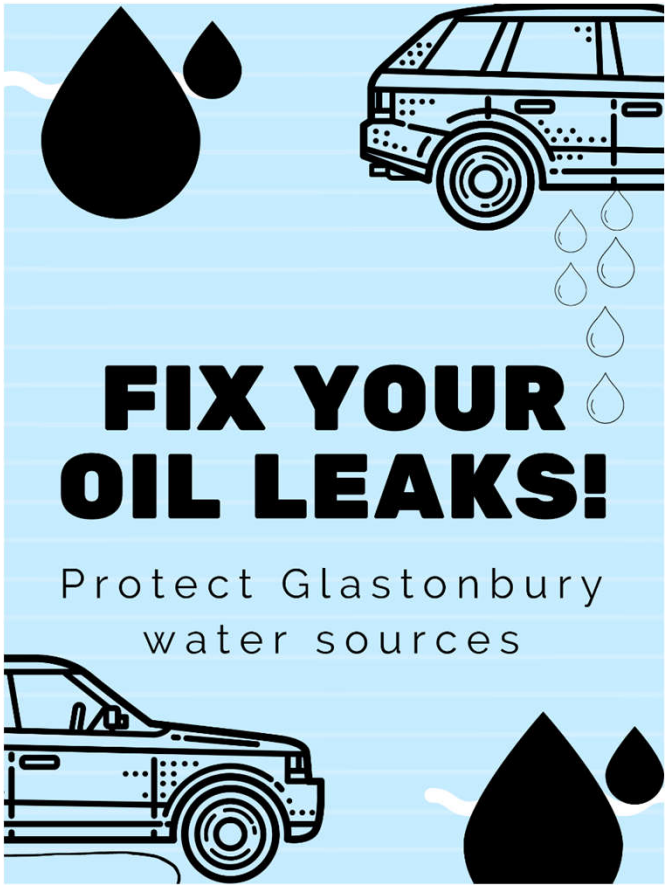
.

#planahead #savethefish #stormwaterpollutionprevention #cleanwater #themoreyouknow #doyourpart

Post date:
5/17 at 2:30pm

Did you know that oil that leaks from your car and onto town streets can travel into the storm drains and end up in Glastonbury water sources? Eeek! Be sure to fix any oil leaks on your car and NEVER pour motor oil or oily substances into storm drains!

Visit www.Glastonbury-ct.gov/stormwater for more information.
.
.
#fixit #oilspill #stormwaterpollutionprevention #cleanwater #themoreyouknow #doyourpart



2022- Salmon River Watershed Partnership Outreach & Monitoring Activities Related to Stormwater & Water Quality

(Bolton, Colchester, Columbia, East Haddam, East Hampton, Glastonbury, Haddam, Hebron, Lebanon & Marlborough)

During the 2022 year, SRWP conducted a number of its outreach, education and monitoring activities as reported below.

Activities presented in this format:

> **Date/*Event*/**Description/Audience and estimated number of individuals reached and/or participated

January-December 2022: ***On-going Meetings with Community Leaders and Board Members-Watershed Visioning Sessions***/In 2021 SRWP initiated a long-term visioning process with a goal of establishing a path towards long term sustainability. Draft outline prepared for long-term vision to ensure continued activities such as water quality monitoring and outreach/Invited municipal leaders of each watershed towns and board members. /25 participants

March 2022*: Bolton Conservation Commission Presentation*: Presentation on water quality monitoring initiatives related to Bolton and watershed as a whole, and opportunities to collaborate/Bolton Conservation Commission/7 members.

March 2022: *Testimony for SB SB 240 An Act Concerning the Use of Sodium Chloride to Mitigate Snow and Ice Accumulations*: Coordinate and submit testimony on behalf of the watershed towns/Coordinate with town officials and board members/30 representatives.

March 2022: *Water Quality Monitoring Report*: Release of report, summarizing summer baseline stream monitoring with volunteers/board members, town officials, volunteers and general public/100+

March 2022: *Spring Fling with Friends of Sunrise and Machimoodus State Parks-Public Event:* Booth Set-up with display on SRWP activities and live "touch" tank for aquatic bugs to discuss lifecycles impacts of stream pollution. Display showing all water quality monitoring sites and a take home brochure including steps landowners can take to protect water quality/General public-100s+

March 2022: ***Hebron MapleFest: Guest booth at Chamber of Commerce Tent-Public Event:*** Booth Set-up with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of water quality to macroinvertebrates, display showing all water quality monitoring sites and a take home brochure including steps landowners can take to protect water quality/General public-100s+

April 2022: ***CT River Conservancy-Video***: Filming on the Salmon River as part of a lower Connecticut River tributaries outreach project/shared with general public/100+

May-September 2022: ***Launching and field checking HOBO stream temperature loggers/***Field Work and Intern training: Partnering with DEEP Water Quality Monitoring and Fisheries Depts. Documenting summer stream temperatures using HOBO loggers. Loggers take hourly readings and are launched in 10 locations throughout the watershed. Loggers were retrieved and data downloaded in October and November 2022 and will be added to watershed temperature mapping to compare with local land-use. Regional data storage site (http://db.ecosheds.org/) /2 college student interns, in partnership with town land-use staff and boards.

June 2022*: Hebron Day Celebration-Public Event*/ Booth Set-up with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of water quality to macroinvertebrates, display showing all water quality monitoring sites and a take home brochure including steps landowners can take to protect water quality/General public-100s+

June -July 2022: ***Annual Newsletter***/Annual newsletter covers a variety of SRWP activities and news items related to protecting watershed resources and preserving water quality. The 2022 edition included an article on MS-4Towns, brownfields, land preservation and riparian planting/Sent for general distribution to all 10 watershed towns, shared on social media and used as handouts for in-person events/general public 100s.

June-August 2022: ***Field Monitoring at local streams*** /Fifth year for two routes established in 2018. Upgraded monitoring equipment to YSI unit. Baseline water quality monitoring at 11 stream segments through the watershed to establish baseline data and track future changes. Previous monitoring had led to a second project of logging conductivity as a means to track chloride (salt) intrusion. Volunteers were trained on hand-held monitoring equipment and took weekly samples for temperature, pH, dissolved oxygen, conductivity, total dissolved solids and salinity. A summary report will be generated and forwarded to all 10 watershed towns and shared with DEEP/8 community volunteers and 10 watershed towns.

September 2022: ***East Haddam Day-sponsored by EH Business Association-Public Event/*** Booth Set-up with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of water quality to macroinvertebrates, display showing all water quality monitoring sites and a take home brochure including steps landowners can take to protect water quality/General public-100s+

September 2022*: Haddam Neck Fair-Public Event*/ Booth Set-up for three-day event with display on SRWP activities and sign-up for water quality monitoring-special focus on impacts of

water quality to macroinvertebrates, display showing all water quality monitoring sites and a take home brochure including steps landowners can take to protect water quality/General public-100s+

September-November 2022: ***Field Stream Assessment with Community Volunteers*** **/**Classroom and outdoor field Training Presentation and 8 Stream Macroinvertebrate Assessments Conducted in 2022 to collect baseline data ahead of potential future development at request of town. Volunteers collect and identify benthic macroinvertebrates as part of CT DEEP protocol for conducting stream assessments to establish whether segments are meeting state water quality goals for aquatic life support. One new site was added in 2022—Buell Brook in East Haddam, 12 individuals in total participated.

October 2022: ***RHAM High School Stream Assessment-Blackledge and Fawn Brook in Marlborough:*** Classroom and field program following DEEP protocol for benthic macroinvertebrate assessments. Field portion also included potential impacts to streams, road crossing design and general river terms**.**/20 RHAM High School students in UCONN Environmental Science Class and teachers.

October 2022: ***Coventry High School Stream Assessment-Raymond Brook in East Haddam:*** Field program following DEEP protocol for benthic macroinvertebrate assessments. Field portion also included potential impacts to streams, road crossing design and general river terms**.**/15 Coventry School students in UCONN Environmental Science Class and teacher.

October 2022: ***Watershed Tour with Board and Town Officials:*** Leg-one of a Watershed Tour to discuss various projects in the watershed as part of engaging with watershed towns/board and town officials/15-30 representatives

Year round: ***Field Monitoring: Conductivity Logger Launching and hourly sampling for conductivity and temperature***/Partnership project with GZA, Inc. Green Team (funding also received by GZA for 3 of the loggers in 2015) and SRWP. In 2020, due to rising concerns with chloride showing up in local streams, SRWP purchased 6 new HOBO conductivity loggers and refurbished 4 older loggers. After consultation with local municipalities and DEEP, 10 new sites were selected, with concentration in areas where there may be higher levels of chlorides present, ie downstream of larger transportation infrastructure. Data is shared with DEEP and USGS. /3 GZA Green Team members, DEEP Fisheries and Water Quality staff and SRWP staff.

Year round: ***SRWP Outreach and Activities/***SRWP is funded primarily through 7 of the watershed towns. SRWP-Watershed Coordinator represents the Partnership on statewide issues related to water quality and non-point source pollution. Information is shared with 10 towns for their dispersal and use. Coordinator also comments as requested on town activities, regulations or planning projects specific to water quality and stormwater/10 watershed towns.

Year round: ***SRWP Outreach: Facebook/*** **(https://www.facebook.com/10towns/**) Salmon River Watershed Partnership Information pertaining to watershed monitoring efforts, opportunities to participate and actions local citizens can do to help protect streams./ general public-100s

Year round: ***SRWP Outreach: Website – www.salmonriverct.org*** /Website posts reports on water quality and monitoring and also offers information and links on issues related to Best Management Practices for Homeowners, Animal Owners and Business Owners/general public-100s

Year round: ***SRWP Outreach: Instagram/*** Salmon River Watershed Partnership initiated a Instagram Account (**www.instagram.com/salmonriverct**) Information pertaining to watershed resources and outreach/general public-100s

APPENDIX B

BASELINE DCIA SPREADSHEET

TOWN OF GLASTONBURY
DIRECTLY CONNECTED IMPERVIOUS COVER (DCIA)
BY DRAINAGE BASIN

Basin Number:	Basin Area: (Acres)	Total Impervious Cover: (Acres)	DOT Roads IC: (Acres)	Total IC Less DOT Roads: (Acres)	Watershed Total IC: (Acres)	Watershed Total IC %:	Connectivity Level:	Watershed Connected IC %:	Total Watershed Connected IC: (Acres)	Watershed Urban Area %	Adjusted Watershed Connected IC: (Acres)
4000-00-6+R11	198.06	2.62	2.20	0.42	0.42	0.21%	Slightly Connected	0.00	0.00	100.00%	0.00
4000-00-6+R12	690.50	7.08	0.00	7.08	7.08	1.03%	Slightly Connected	0.01	0.07	100.00%	0.07
4000-00-6+R14	238.00	6.38	1.02	5.36	5.36	2.25%	Sorta Connected	0.16	0.38	100.00%	0.38
4000-00-6+R13	59.30	0.15	0.00	0.15	0.15	0.25%	Slightly Connected	0.00	0.00	100.00%	0.00
4000-00-6+R15	40.06	0.80	0.40	0.40	0.40	1.00%	Slightly Connected	0.01	0.00	100.00%	0.00
4000-00-6+R16	730.25	51.69	1.90	49.79	49.79	6.82%	Sorta Connected	1.05	7.67	100.00%	7.67
4000-00-6+R17	9.93	0.70	0.00	0.70	0.70	7.05%	Sorta Connected	1.11	0.11	100.00%	0.11
4000-00-6+R18	257.52	21.46	0.00	21.46	21.46	8.33%	Slightly Connected	0.69	1.78	100.00%	1.78
4000-30-1	725.79	47.88	3.41	44.47	44.47	6.13%	Sorta Connected	0.87	6.31	50.00%	3.16
4000-30-1-L1	49.84	4.66	0.00	4.66	4.66	9.35%	Sorta Connected	1.79	0.89	100.00%	0.89
4000-35-1	81.72	8.91	1.02	7.89	7.89	9.65%	Sorta Connected	1.89	1.54	75.00%	1.16
4006-00-1	313.79	27.79	1.30	26.49	26.49	8.44%	Sorta Connected	1.50	4.71	50.00%	2.35
4006-00-2-L1	419.09	63.19	0.23	62.96	62.96	15.02%	Sorta Connected	4.00	16.76	100.00%	16.76
4006-00-2-R1	706.33	51.28	0.82	50.46	50.46	7.14%	Sorta Connected	1.13	7.98	100.00%	7.98
4006-00-2-R2	19.63	2.19	0.00	2.19	2.19	11.16%	Sorta Connected	2.42	0.48	100.00%	0.48
4006-00-2-R3	43.63	5.67	0.00	5.67	5.67	13.00%	Sorta Connected	3.13	1.37	100.00%	1.37
4006-00-2-R4	128.46	19.41	1.20	18.21	18.21	14.18%	Sorta Connected	3.63	4.66	100.00%	4.66
4006-00-2-R5	476.32	138.84	10.55	128.29	128.29	26.93%	Wicked Connected	20.81	99.12	100.00%	99.12
4006-00-2-R6	422.37	143.36	20.95	122.41	122.41	28.98%	Fully Connected	28.98	122.41	100.00%	122.41
4006-00-2-R7	5.85	0.00	0.00	0.00	0.00	0.00%	Slightly Connected	0.00	0.00	100.00%	0.00
4006-01-1	152.19	14.81	0.44	14.37	14.37	9.44%	Sorta Connected	1.82	2.77	75.00%	2.08
4006-01-1-L1	283.19	34.04	1.38	32.66	32.66	11.53%	Sorta Connected	2.55	7.22	100.00%	7.22
4006-02-1	5.70	0.17	0.00	0.17	0.17	2.98%	Sorta Connected	0.26	0.01	100.00%	0.01
4006-02-1-L1	650.06	78.50	10.43	68.07	68.07	10.47%	Moderately Connected	3.39	22.04	100.00%	22.04
4006-03-1	338.35	31.99	0.66	31.33	31.33	9.26%	Moderately Connected	2.82	9.54	100.00%	9.54
4006-04-1	394.09	45.60	1.15	44.45	44.45	11.28%	Sorta Connected	2.46	9.69	100.00%	9.69
4006-04-1-L1	56.74	8.42	1.29	7.13	7.13	12.57%	Sorta Connected	2.96	1.68	100.00%	1.68
4006-05-1	310.43	23.72	0.00	23.72	23.72	7.64%	Sorta Connected	1.27	3.94	100.00%	3.94
4006-06-1	336.09	57.72	0.00	57.72	57.72	17.17%	Moderately Connected	7.11	23.90	100.00%	23.90
4006-09-2-R3	321.14	103.46	14.94	88.52	88.52	27.56%	Wicked Connected	21.40	68.72	100.00%	68.72
4006-11-1-L1	167.76	43.53	0.00	43.53	43.53	25.95%	Moderately Connected	13.22	22.18	100.00%	22.18
4006-11-1-L3	37.12	7.10	0.00	7.10	7.10	19.13%	Moderately Connected	8.49	3.15	100.00%	3.15
4006-12-1	145.21	30.39	0.00	30.39	30.39	20.93%	Moderately Connected	9.58	13.91	100.00%	13.91
4006-13-1	504.34	92.72	17.04	75.68	75.68	15.01%	Fully Connected	15.01	75.68	100.00%	75.68
4007-00-1	673.29	211.48	14.43	197.05	197.05	29.27%	Fully Connected	29.27	197.05	100.00%	197.05
4007-00-1-L1	93.00	9.60	3.60	6.00	6.00	6.45%	Sorta Connected	0.95	0.88	100.00%	0.88
4007-00-1-L2	1,314.72	182.74	24.54	158.20	158.20	12.03%	Moderately Connected	4.17	54.82	100.00%	54.82
4007-00-1-L3	61.42	24.86	0.31	24.55	24.55	39.97%	Wicked Connected	33.43	20.53	100.00%	20.53
4007-00-2-R1	252.18	22.50	0.00	22.50	22.50	8.92%	Sorta Connected	1.65	4.16	100.00%	4.16
4007-00-3-R1	69.58	12.13	0.00	12.13	12.13	17.43%	Moderately Connected	7.28	5.07	100.00%	5.07
4007-00-3-R2	8.22	0.00	0.00	0.00	0.00	0.00%	Slightly Connected	0.00	0.00	100.00%	0.00
4007-01-1	556.20	93.74	4.34	89.40	89.40	16.07%	Moderately Connected	6.44	35.82	100.00%	35.82
4007-02-1	573.00	69.46	0.00	69.46	69.46	12.12%	Moderately Connected	4.22	24.18	100.00%	24.18
4007-02-2-R1	236.22	42.66	2.91	39.75	39.75	16.83%	Moderately Connected	6.90	16.30	100.00%	16.30
4007-03-1	369.62	64.62	0.00	64.62	64.62	17.48%	Moderately Connected	7.31	27.02	100.00%	27.02
4007-04-1	706.53	96.70	5.59	91.11	91.11	12.90%	Sorta Connected	3.09	21.83	100.00%	21.83
4007-04-1-L1	149.65	16.55	0.00	16.55	16.55	11.06%	Sorta Connected	2.38	3.56	100.00%	3.56
4008-00-2-L1	217.52	24.67	4.27	20.40	20.40	9.38%	Sorta Connected	1.80	3.92	100.00%	3.92
4008-00-2-L2	856.20	47.59	3.54	44.05	44.05	5.14%	Sorta Connected	0.65	5.57	50.00%	2.78
4008-01-2-R1	648.94	28.83	8.76	20.07	20.07	3.09%	Sorta Connected	0.27	1.75	25.00%	0.44
4008-03-1	818.79	29.45	0.00	29.45	29.45	3.60%	Sorta Connected	0.35	2.87	25.00%	0.72
4009-00-2-L2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4009-00-2-L3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4009-00-2-L4	345.05	42.20	2.32	39.88	39.88	11.56%	Sorta Connected	2.57	8.87	100.00%	8.87
4009-00-2-R1	129.44	5.79	1.91	3.88	3.88	3.00%	Sorta Connected	0.26	0.34	25.00%	0.08
4009-00-2-R2	538.97	32.68	1.51	31.17	31.17	5.78%	Sorta Connected	0.79	4.26	50.00%	2.13
4009-00-2-R3	90.34	16.30	1.79	14.51	14.51	16.06%	Sorta Connected	4.49	4.06	100.00%	4.06
4009-00-3-L5	96.94	9.80	0.63	9.17	9.17	9.46%	Sorta Connected	1.82	1.76	100.00%	1.76
4009-00-3-L6	182.41	20.37	0.00	20.37	20.37	11.17%	Sorta Connected	2.42	4.41	100.00%	4.41
4009-00-3-R1	50.00	6.86	1.73	5.13	5.13	10.26%	Sorta Connected	2.09	1.05	100.00%	1.05
4009-00-3-R2	491.16	66.19	10.75	55.44	55.44	11.29%	Sorta Connected	2.46	12.08	100.00%	12.08
4009-00-3-R4	156.81	2.22	0.00	2.22	2.22	1.42%	Slightly Connected	0.02	0.03	50.00%	0.02
4009-00-3-R5	1,471.90	179.77	5.24	174.53	174.53	11.86%	Sorta Connected	2.68	39.45	100.00%	39.45
4009-03-1	997.57	47.72	3.14	44.58	44.58	4.47%	Sorta Connected	0.51	5.09	50.00%	2.54
4009-04-1	399.52	46.96	4.95	42.01	42.01	10.52%	Moderately Connected	3.41	13.62	100.00%	13.62
4009-05-1	177.94	15.46	0.00	15.46	15.46	8.69%	Sorta Connected	1.58	2.81	75.00%	2.11
4009-05-2-R1	40.08	4.44	0.00	4.44	4.44	11.08%	Sorta Connected	2.39	0.96	100.00%	0.96
4009-05-2-R2	38.76	4.30	0.00	4.30	4.30	11.09%	Sorta Connected	2.39	0.93	100.00%	0.93
4009-06-1	382.93	14.64	0.00	14.64	14.64	3.82%	Sorta Connected	0.39	1.49	50.00%	0.75
4009-07-1	359.78	39.53	0.00	39.53	39.53	10.99%	Sorta Connected	2.35	8.45	75.00%	6.34
4009-08-1	370.09	34.72	12.09	22.63	22.63	6.11%	Sorta Connected	0.87	3.22	100.00%	3.22
4009-09-1	479.48	44.01	0.00	44.01	44.01	9.18%	Sorta Connected	1.73	8.30	75.00%	6.22
4707-00-2-L3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4707-00-2-R4	438.02	12.63	1.80	10.83	10.83	2.47%	Sorta Connected	0.19	0.83	100.00%	0.83
4707-04-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4707-05-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4707-06-1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4707-06-1-L1	285.96	27.96	2.08	25.88	25.88	9.05%	Sorta Connected	1.69	4.83	50.00%	2.42
4707-06-1-L2	100.51	8.66	0.00	8.66	8.66	8.62%	Sorta Connected	1.56	1.57	25.00%	0.39
TOTALS:	**24,547.59**	**2,837.02**	**214.56**	**2,622.46**	**2,622.46**				**1,094.41**		**1,067.40**

Note:

1. Watershed data depicted is derived from CTDEEP 2012 Impervious Cover by Watershed Basin (clipped) datasets from https://cteco.uconn.edu/viewers/ctms4/

2. Basin Areas shown depict acerages and Impervious Cover clipped at the Town line residing in Glastonbury

3. Total impervious cover acreage for each watershed utilized the sum of the Total Watershed Impervious Cover less ConnDOT Roads acerage.

Watersheds with a proportional Urban Area

Watersheds with Urban Area too small

Connectivity Level Formulas:

Fully Connected: DCIA% = IC% (High density mixed use, commercial)

Wicked Connected: DCIA% = 0.4(%IC)^1.2 (High density residential, commercial, industrial, institutional)

Moderately Connected: DCIA% = 0.1(%IC)^1.5 (Medium density residential, commercial, industrial, institutional, open land)

Sorta Connected: DCIA% = 0.04(%IC)^1.7 (Low density residential, open land)

Slightly Connected: DCIA% = 0.01(%IC)^2.0 (Agricultural, forested, natural areas)

APPENDIX C

IDDE PROGRAM PLAN
CATCHMENT EVALUATION

Table 6-1. Catchment Assessment and Priority Ranking Matrix

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Catchment) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
4000-00-6+R11	Connecticut River	0	0	0	3	0	0	0	0	0	Urbanized Area IC = >11 to 84% TMDL	3	Low Priority
4006-00-2-R7	Salmon Brook	0	0	0	3	0	0	0	0	0	Urbanized Area	3	Low Priority
4006-13-1	Salmon Brook	0	0	0	0	2	1	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-09-2-R3	Salmon Brook	3	0	0	0	2	2	1	0	3	Urbanized Area IC = >11 to 84%	11	Problem
4006-12-1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-11-1-L3	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-11-1-L1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-R6	Salmon Brook	3	0	0	0	2	2	3	0	3	Urbanized Area IC = >11 to 84%	13	Problem
4006-06-1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-L1	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4000-00-6+R12	Connecticut River	3	0	0	3	3	2	3	0	0	Urbanized Area TMDL	11	Problem
4007-00-1	Hubbard Brook	0	0	0	0	3	2	3	0	0	Urbanized Area IC = >11 to 84%	8	Medium Priority
4006-00-2-R5	Salmon Brook	0	0	0	0	2	2	0	0	0	Urbanized Area IC = >11 to 84%	4	Low Priority
4006-00-2-R4	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4006-00-2-R3	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-00-2-R2	Salmon Brook	0	0	0	0	1	2	0	0	0	Urbanized Area IC = >11 to 84%	3	Low Priority
4006-02-1-L1	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Catchment) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
4006-01-1-L1	Salmon Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4009-04-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-1-L3	Hubbard Brook	0	0	0	0	2	2	0	0	0	Urbanized Area IC = >11 to 84%	4	Low Priority
4007-00-1-L2	Hubbard Brook	0	0	0	0	2	2	3	1	0	Urbanized Area IC = >11 to 84%	8	Medium Priority
4007-01-1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4006-04-1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4006-04-1-L1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-2-R1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area	5	Low Priority
4007-00-3-R1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-00-3-R2	Hubbard Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4007-02-2-R1	Hubbard Brook	0	0	0	0	1	2	3	0	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4007-03-1	Hubbard Brook	0	0	0	0	0	2	3	0	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-04-1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-02-1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4007-04-1-L1	Hubbard Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4009-00-3-R5	Roaring Brook	0	0	0	0	1	2	3	3	0	Urbanized Area IC = >11 to 84%	9	Problem
4009-00-3-L6	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4000-00-6+R12	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area TMDL	6	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Catchment) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
4000-00-6+R13	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area TMDL	6	Medium Priority
4000-00-6+R15	Connecticut River	0	3	0	3	0	0	0	0	0	Urbanized Area IC = >11 to 84% TMDL	6	Medium Priority
4000-00-6+R16	Connecticut River	0	3	0	3	0	2	0	3	0	Urbanized Area TMDL	5	Low Priority
4009-00-2-L4	Roaring Brook	3	3	2	0	1	2	0	3	0	Urbanized Area IC = >11 to 84% TMDL	14	Problem Angus Pond
4009-00-2-R3	Roaring Brook	0	0	0	0	1	2	0	3	0	Urbanized Area IC = >11 to 84%	6	Medium Priority
4009-00-2-R2	Roaring Brook	0	3	0	0	1	2	0	0	0	Urbanized Area	6	Medium Priority
4009-05-2-R2	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4009-05-2-R1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4009-00-3-R1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area IC = >11 to 84%	5	Low Priority
4009-00-3-R2	Roaring Brook	0	0	0	0	2	2	0	3	0	Urbanized Area IC = >11 to 84%	7	Medium Priority
4008-00-2-L1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area IC = >11 to 84%	2	Low Priority
4000-00-6+R14	Connecticut River	0	0	2	3	0	2	0	0	0	Urbanized Area TMDL	4	Low Priority
4000-00-6+R16	Connecticut River	3	0	2	3	1	2	0	3	0	Urbanized Area TMDL	11	Problem
4000-00-6+R17	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4000-00-6+R18	Connecticut River	0	0	0	3	1	2	0	0	0	Urbanized Area TMDL	6	Medium Priority
4000-30-1	Connecticut River	0	0	0	3	0	2	0	3	0	Urbanized Area TMDL	8	Medium Priority

Catchment ID (CTDEEP Local Basin ID#)	Receiving Water	Previous Screening Results Indicate Likely Sewer Input? [1]	Discharging to Area of Concern to Public Health? [2]	Frequency of Past Discharge Complaints	Receiving Water Quality [3]	Density of Generating Sites [4]	Age of Development/ Infrastructure [5]	Historic Combined Sewers or Septic? [6]	Aging Septic? [7]	Culverted Streams? [8]	Additional Characteristics	Score	Priority Ranking
Information Source		Catchment inspections and sample results	GIS Maps	Municipal Staff	Impaired Waters List	Land Use/GIS Maps, Aerial Photography	Land Use Information, Visual Observation	Municipal Staff, GIS Maps	Land Use, Municipal Staff	GIS and Storm System Maps	Other		
Scoring Criteria		Yes = 3 (Problem Catchment) No = 0	Yes = 3 No = 0	Frequent = 3 Occasional = 2 None = 0	Poor = 3 Fair = 2 Good = 0	High = 3 Medium = 2 Low = 1	High = 3 Medium = 2 Low = 1	Yes = 3 No = 0	Yes = 3 No = 0	Yes = 3 No = 0	TBD		
4000-30-1-L1	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4000-35-1	Connecticut River	0	0	0	3	0	2	0	0	0	Urbanized Area TMDL	5	Low Priority
4006-02-1	Salmon Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4006-03-1	Salmon Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4007-00-1-L1	Hubbard Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-08-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-00-2-R2	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-00-2-R1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-03-1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-09-1	Roaring Brook	0	0	0	0	1	2	0	3	0	Urbanized Area	6	Medium Priority
4009-00-3-L5	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-07-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-05-1	Roaring Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4009-06-1	Roaring Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4009-00-3-R4	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4009-00-2-L3	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4009-00-2-L2	Roaring Brook	0	0	0	0	0	0	0	0	0	Urbanized Area	0	Low Priority
4008-00-2-L2	Cold Brook	0	0	0	0	0	2	0	3	0	Urbanized Area	5	Low Priority
4008-03-1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4008-01-2-R1	Cold Brook	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4707-06-1-L1	Blackledge River	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority
4707-04-1	Blackledge River	0	0	0	0	0	2	0	0	0	Urbanized Area	2	Low Priority

Table 8-1. Outfall Catchment System Vulnerability Factor (SVF) Inventory

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4000-00-6+R11	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4006-00-2-R7	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-13-1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-09-2-R3	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-12-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-11-1-L3	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-11-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-00-2-R6	Salmon Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-06-1	Salmon Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4006-00-2-L1	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4000-00-6+R12	Connecticut River	No	No	No	No	No	No	Yes	No	No	Yes	No	No
4007-00-1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-00-2-R5	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4006-00-2-R4	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4006-00-2-R3	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4006-00-2-R2	Salmon Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4006-02-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4006-01-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4009-04-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	Yes	Yes
4007-00-1-L3	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4007-00-1-L2	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	No	Yes	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4007-01-1	Hubbard Brook	Yes	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4006-04-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4006-04-1-L1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4007-00-2-R1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	No
4007-00-3-R1	Hubbard Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4007-00-3-R2	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	No
4007-02-2-R1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	No
4007-03-1	Hubbard Brook	No	No	No	No	No	No	Yes	No	Yes	No	No	No
4007-04-1	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4007-02-1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4007-04-1-L1	Hubbard Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4009-00-3-R5	Roaring Brook	No	No	No	No	No	No	Yes	No	Yes	Yes	No	Yes
4009-00-3-L6	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-00-6+R12	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R13	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R15	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R16	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-L4	Roaring Brook	No	No	No	No	No	No	No	No	No	Yes	Yes	Yes
4009-00-2-R3	Roaring Brook	No	No	No	No	No	No	No	No	Yes	Yes	No	Yes
4009-00-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	Yes	No	No
4009-05-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-05-2-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4009-00-3-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-3-R2	Cold Brook	No	No	No	No	No	No	No	No	No	Yes	No	Yes
4008-00-2-L1	Cold Brook	No	No	No	No	No	No	No	No	No	Yes	No	Yes
4000-00-6+R14	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R16	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-00-6+R17	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-00-6+R18	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-30-1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	Yes
4000-30-1-L1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4000-35-1	Connecticut River	No	No	No	No	No	No	No	No	No	No	No	No
4006-02-1	Salmon Brook	No	No	No	No	No	No	No	No	No	No	No	No
4006-03-1	Salmon Brook	No	No	No	No	No	No	No	No	Yes	No	No	Yes
4007-00-1-L1	Hubbard Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-08-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-R2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-R1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-03-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-09-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-3-L5	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-07-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-05-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-06-1	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No

Catchment ID (CTDEEP Local Basin ID #)	Receiving Water	1 History of SSOs	2 Common or Twin Invert Manholes	3 Common Trench Construction	4 Storm/Sanitary Crossings (Sanitary Above)	5 Sanitary Lines with Underdrains	6 Inadequate Sanitary Level of Service	7 Areas Formerly Served by Combined Sewers	8 Sanitary Infrastructure Defects	9 SSO Potential In Event of System Failures	10 Sanitary and Storm Drain Infrastructure >40 years Old	11 Septic with Poor Soils or Water Table Separation	12 History of BOH Actions Addressing Septic Failure
4009-00-3-R4	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4009-00-2-L3	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4009-00-2-L2	Roaring Brook	No	No	No	No	No	No	No	No	No	No	No	No
4008-00-2-L2	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	Yes
4008-03-1	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	No
4008-01-2-R1	Cold Brook	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1-L1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-04-1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-00-2-L3	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-00-2-R4	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No
4707-06-1-L2	Blackledge River	No	No	No	No	No	No	No	No	No	No	No	No

Presence/Absence Evaluation Criteria:

1. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages
2. Common or twin-invert manholes serving storm and sanitary sewer alignments
3. Common trench construction serving both storm and sanitary sewer alignments
4. Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system
5. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system
6. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints
7. Areas formerly served by combined sewer systems
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. Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs
10. Any sanitary sewer and storm drain infrastructure greater than 40 years old
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 health department 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)