

WORKING DRAFT FOR PUBLIC COMMENT
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MS4 2026 Stormwater Annual Report (2025 Activities)

Prepared for Town of Berlin, Connecticut

Town of Berlin

Prepared by:

SLR International Corporation

45 Glastonbury Boulevard, Glastonbury, Connecticut, 06033

SLR Project No.: 126.020454.00001

Draft for comment. Items to be updated include addressing items identified in CTDEEP's Desktop Compliance Audit. Items being evaluated for improved reporting include:

- Documenting the presence and locations of Illicit Discharges,
- Documenting the location and number of sewer overflows,
- Improving the mapping of Town owned outfalls and connected Impervious areas,
- Documenting employee outreach and training procedures, and
- Developing a stormwater monitoring program that satisfies MS4 requirements

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Introduction

This Annual Report has been prepared for the Town of Berlin as required in Section 6(i)(2) of the General Permit for the Discharge of Stormwater from Municipal Separate Storm Sewer Systems (the Permit). The Town developed a Stormwater Management Plan (SMP) in association with its registration under this permit. This report is intended to summarize stormwater-related activities performed within the Town during the 2025 Ar.

The Town was able to establish and maintain a list of six worst-case outfalls during the initiation of outfall screening in 2022 which was included in the previous year's report. The Town continues to inspect stormwater outfalls and is working to identify outfall areas that may need additional attention. The Town is developing a plan to evaluate the outfalls of concern. Once identified, the drainage areas that contribute to problem outfalls will be inspected and plans to remedy problems will be developed.

Approximately 932 stormwater outfalls have been identified in the Town, 134 of these discharge to or near waterbodies that have been identified as impaired by CTDEEP. The Town schedules inspection and cleaning of nearly all the catch basins in these systems, with particular attention given to those that drain to impaired waters. Inspections conducted since 2022 have not identified illicit discharges from any of the Town's outfalls. Repairs were made when maintenance needs have been identified during inspections.

Effective June 15, 2023 through 2033, the Town issued the new Plan of Conservation and Development (POCD) which included a summary of the Town's existing conditions and established goals for the Town related to its future based on the realities of the existing resources and constraints. The Implementation section of the report included several goals related to improving the Town's stormwater management including, but not limited to the following:

- Ensure that the Town's zoning regulations direct development toward areas that can support development without adversely impacting the Town's environmental resources
- Actively work toward protecting and improving water quality of the Mattabassett River and other waterways in the Town
- Continue to promote sustainable stormwater management and floodplain management to be resilient and adaptable to a changing climate
- Provide improvements to the Town stormwater infrastructure to reduce risk of flooding and protect water quality by identifying additional projects for inclusion in the Capital Improvement Plan (CIP)

In 2024, the Town Conservation Commission has worked on multiple projects that directly or indirectly have a positive effect on stormwater quality. Some of the efforts that benefit stormwater quality include:

- The Commission reviews development proposals pending before the Planning and Zoning Commission to provide comments related to environmentally sensitive areas and best construction & management practices.
- The Commission continues to work with Town staff on uniform signage for Town open space properties, especially to identify Town open space and conservation easements.
- The Conservation Commission has reviewed the 2023 Plan of Conservation and Development and has identified a list of priority strategies, including several that will benefit water quality.
- The Commission reviews encroachment violations and offers recommendations regarding best practices to prevent erosion that can impact receiving waters.



1.0 Part I – Minimum Control Measures

The current status of each minimum control measure has been reviewed. The Town conducts activities that include several existing Best Management Practices (BMPs) and the development of proposed and future BMPs for implementation. The minimum control measures, current schedule, and anticipated completion or initiation date for each task are listed in the appended table. Additional information concerning the specific BMPs can be found in the Stormwater Management Plan (SMP).



2.0 Part II – Impaired Waters Investigation & Monitoring

1. Impaired waters investigation and monitoring program

For details on this requirement, visit <https://nemo.uconn.edu/ms4/tasks/monitoring.htm>.

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

Nitrogen/ Phosphorus Bacteria Mercury Other Pollutant of Concern

1.2 Describe program status.

Discuss 1) the status of monitoring work completed, 2) a summary of the results and any notable findings, and 3) any changes to the Stormwater Management Plan based on monitoring results.

- 1) Impaired Waters Monitoring for E. coli has been initiated during the 2021 reporting period and continued through 2022. The Town conducted monitoring of Town properties in 2024 and plans to conduct monitoring of a minimum of 6 prioritized outfalls in 2025.
- 2) See table in Section 4 – Prioritized Outfall Monitoring Screening data table for the results from 2022 sampling.
- 3) No changes appear necessary to the SMP during this time.

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? *

Sampling for impaired waters outfalls to identify prioritized outfalls was initiated in 2021 and carried through 2022. The screening for the list of remaining parameters (surfactants, chlorine, etc.) was initiated in March 2022. In 2025, the Town plans to conduct the stormwater pollutant investigations and monitoring in response to incident reports on record for 2024.

2.2 Credit for screening data collected under 2004 permit

If any outfalls to impaired waters were sampled under the 2004 MS4 permit, that data can count towards the monitoring requirements under the modified 2017 MS4 permit. Complete the table below to record sampling data for any outfalls to impaired waters under the 2004 MS4 permit.



The Town had previously prioritized six outfalls to impaired waterbodies under the 2004 MS4 permit. The table below lists the six previously prioritized outfalls that were sampled from June 2009 to September 2015.

Outfall	Date	Parameter (N, P, Bacteria, or Other)	Results	Name of Lab	Follow-up? *
B-1 Circlewood Drive					
B-2 Wildemere Road					
B-3 Town Hall Dr N					
B-4 Vincent Drive					
B-5 Old Brickyard Lane					
B-6 Woodlawn Road					

*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)	<ul style="list-style-type: none"> E. coli > 235 col/100ml for swimming areas or 410 col/100ml for all others Total Coliform > 500 col/100ml
Bacteria (salt waterbody)	<ul style="list-style-type: none"> 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.

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

Outfall monitoring for priority impaired waters outfalls was initiated in late-2021 and follow-up sampling during 2022 was conducted (see attached MS4 Outfall Screening & Sampling table). The Town plans to expand outfall sampling efforts in 2025.

4. Prioritized outfall monitoring (Section 6(i)(1)(D) / page 43)



Once outfall screening has been completed for at least 50% of outfalls to impaired waters, identify 6 of the highest contributors of any pollutants of concern. Begin monitoring these outfalls on an annual basis by July 1, 2020.

Outfall	Sample Date	Parameter(s)	Results	Name of Laboratory (if used)
OF-003-MAT	12/15/21	E. coli	1,300 MPN	Phoenix
OF-005-MAT	12/6/21	E. coli	4,350 MPN	Phoenix
OF-006-RRP	12/6/21	E. coli	1,660 MPN	Phoenix
606	12/6/21	E. coli	1,720 MPN	Phoenix
OF-014-MAT	12/15/21	E. coli	1,140 MPN	Phoenix
301	12/15/21	E. coli	6,870 MPN	Phoenix
BB-40	3/24/22	E. coli	> 24,000 MPN	Phoenix

The Town has conducted impaired outfall monitoring for the listed impairment E. coli. The Town will continue to conduct priority outfall monitoring to impaired waters and outfall screening in 2025, including mapping. Town is also maintaining an active list of six of the worst-case impaired outfalls for annual monitoring during 2025. The current worst-case impaired waters outfall laboratory data is listed in the above table. The full list of outfall monitoring data is provided in Part III, Section 2.2 of this report.



3.0 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

It is noted that approximately 95% of all catch basins were cleaned in 2023 with ongoing inspections and cleaning conducted in 2024. No illicit discharges were identified, prompting no follow-up investigations and/or high priority rankings. In 2025, the Town plans to complete the identification of all catchments with Catchment ID, Category of Priority Level, and Rank.

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

During the 2021 reporting period, the Town initiated outfall monitoring for the impairment E. coli at several outfalls during wet weather. The Town completed the impaired outfall sampling and initiated the outfall and interconnection screening for the remainder of the parameters (ammonia, chlorine, conductivity, salinity, temperature, and surfactants) for dry and wet weather screening during 2022. The data is presented in the attached MS4 Annual Report Outfall Screening & Sampling Activities table. In 2025, the Town plans to initiate or expand outfall screening and/or sampling.



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. The Town determined that the SVF for outfalls that were monitored for the impairment E. coli during 2021-2022 were outfalls that discharge to impaired waters and therefore were the highest priority. The appended table and figure show the results and locations of each outfall.

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp
REFER TO APPENDED "MS4 ANNUAL REPORT – TOWN OF BERLIN OUTFALL SCREENING & SAMPLING A								

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

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 than 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 than poor owner maintenance).

During 2024, Town inspections did not identify any illicit discharges during routine inspections of catch basins and stormwater outfalls. In 2025, the Town plans to establish a vulnerability factor for each catchment and document the presence/absence of illicit discharges.

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

3.3 Wet weather investigation outfall sampling data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

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

The Town plans to continue to tabulate the data to be obtained through the following screenings/investigations: key junction manhole dry weather screening and sampling data, wet weather investigation outfall sampling data, and data for each illicit discharge source confirmed through the catchment investigation procedure during 2025. Refer to the appended "MS4 Annual Report – Town of Berlin Outfall Screening & Sampling Activities" table.



4.0 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: Michael S. Ahern, Town of Berlin	Print name: Donald Gonyea, SLR
Signature / Date:	Signature / Date:



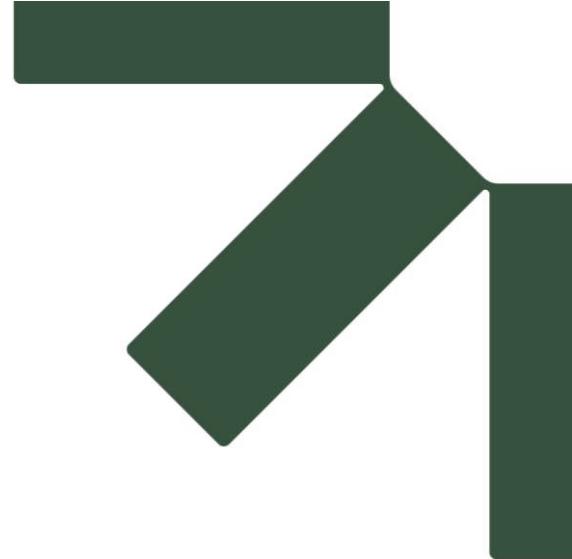


Table: Best Management Practices (BMP) Progress Summary

BMP	Status	Activities in Current Reporting Period	Measurable Goals	Responsible Party	Due	Date Completed or Projected Completion Date	Additional Details
BMP #1 Public Education & Outreach (PE)							
PE1: Implement a public education program for residents and students.	Completed/Ongoing	The town has provided educational materials to residents through the following ways: A floor display created by the Town of Berlin Watershed Management Plan Implementation Committee and designed to educate residents on watershed management has been exhibited at town buildings at different intervals. The pamphlet <i>The Backyard Water Resources Guide</i> is made available to the public at several offices at Town Hall, such as the Planning & Zoning Department and the Engineering Department. The Town Planner has placed the pamphlets <i>Managing Your Household Chemicals</i> and <i>Integrated Pest Management and Biological Controls for the Homeowner</i> published through the Connecticut NEMO (Nonpoint Education for Municipal Officials) program on the counter in her office for free distribution to the public. The town offers a curbside recycling program through Bristol Resources Recovery, and disposal of hazardous wastes is coordinated by town staff. The town also allows residents to bring leaf collection wastes and used electronic items and appliances to the Town Transfer Station. The Town of Berlin website maintains a link to the Mattabesett River Watershed Association's (MRWA) website. The MRWA works with the Berlin Land Trust in many land protection projects. The Berlin Land Trust maintained an information table at the Berlin Fair distributing MRWA brochures.	1. Provide educational materials to town residents.	Town Planner and Town Engineer	30-Jun-18	Ongoing	Educational materials continue to be distributed in municipal buildings and at Town-sponsored functions. Also, the Berlin Social & Youth Services conducted a clean-up event at the Pistol Creek walking trail in April 2023.
		The Upbeat Education program continues to educate youths on sustainable practices, including managing water quality.					
PE2: Implement a public education program for industries and commercial entities.	Completed/Ongoing	The Town Engineer's office coordinated with the Chamber of Commerce to develop an educational mailing fact sheet on disposal of hazardous materials for the industries that use and store hazardous materials. The fact sheet was included in its monthly mailings. All individuals submitting applications to the town are provided with literature on stormwater and sediment and erosion controls by the Planning Department. More specifically, this literature includes a checklist of the site plan application, which references stormwater drainage systems, drainage maps, and the location and details of sedimentation and erosion control measures.	1. Mail educational materials to town businesses on an annual basis.	Chamber of Commerce	30-Jun-18	2017	The Town (POCD) has planned to create and provide to the public an interactive "future land use map" via the Town's website which will provide a guide for policy decisions that have land use implications. Stormwater considerations for future development is anticipated to be included as part of the interactive map.
		The Fire Marshal maintains a list of companies and businesses that use or store chemicals. The information is collected to ensure proper handling and disposal of materials. The list includes the names and locations of the industries and businesses, the quantity of the chemical used, and the hazard class. Businesses identified by the Fire Marshal and Watershed Management Plan Implementation Committee as using and storing chemicals are included on all exercises and emergency response scenarios that pertain to public health and environmental health. Participating companies include Stanley Chemicals, M. Harte, and the rail system.					
	Completed/Ongoing	An Operation and Maintenance Manual was distributed to the Physical Services Complex personnel for their use. This manual identifies potential sources of contamination that can be minimized with proper control to protect stormwater runoff. The manual addresses all public park areas, cemeteries, schools, fire stations, and maintenance facilities controlled by the town; employee training; housekeeping; and standard operating procedures for pollution control practices related to stormwater management.	1. Annual Review Meetings with Land Use Commissions and the Town Council	Town Engineer and Town Planner	30-Jun-18	2017	The Town continues to conduct annual review meetings with the Land Use Commission and the Town Council routinely.
PE3: Implement a public education program for municipal officials and land use commissions.	In Progress	The UCONN Center for Land Use Education and Research (CLEAR) NEMO program is an ongoing resource available that the Town uses.	2. NEMO Workshop, Town Council & land use commissions	Town Engineer and Town Planner	30-Jun-18	Pending	Budget cuts, other high priority projects, and high staffing turnover have delayed the initiation of this task. The Town plans to complete the development of this workshop in 2025.
	Ongoing	Coordinate conservation efforts with the Town Conservation Commission.	Improved land management of new developments. Improved management of open space townwide, particularly after land disruption like the 2024 Laramentation Mountain fire.	Town Engineer and Town Planner in coordination with the Conservation Commission	NA	Ongoing	NA

BMP	Status	Activities in Current Reporting Period	Measurable Goals	Responsible Party	Due	Date Completed or Projected Completion Date	Additional Details
BMP #2 Public Involvement / Participation Plan (PI)							
PI1: Comply with public notice requirements for the SMP and Annual Reports.	Completed/Ongoing	The Town of Berlin maintains a "Document Center" web page. All stormwater management reports and documents are available for download.	1. Publish a public notice on the Town website to inform the public of the SMP and Annual Reports and allow for a 30-day comment period.	Town Engineer/ Town Planner	1-Jul-17	Completed annually	
	Completed/Ongoing	The Town of Berlin regularly holds public meetings and hearings as part of the local land use process.	2. Hold public information meeting in coordination with regularly scheduled Conservation Commission meeting.	Town Engineer/ Inland Wetland Agency	1-Jul-17	Ongoing	
PI2: Involve the public in watershed activities.	Completed/Ongoing	In addition to educating elementary school students about stormwater, portions of Town adjacent to roadways are cleaned up by Upbeat typically every year in the Spring. All trash collected is picked up and disposed by the Town Highway Department.	1. Hold public presentations through the UpBeat educational program and Berlin Land Trust.	Berlin Youth Services and Berlin Land Trust	1-Jul-17	Ongoing	In the Spring of 2022 (4/9/22), the Town worked with the Kensington-Berlin Rotary, Boy Scouts, and other groups to canvas the downtown core and the Middletown Road areas to complete a Town-wide cleanup. The Highway Department assisted by picking up the garbage bags and debris and properly disposing of all collected materials. The Town intends on continuing to assist such groups and cleanup efforts on an-going basis; this includes shoreline areas and watercourses, lakes, and ponds.
	Ongoing	Approximately 500 catch basins received storm drain markers created through the Long Island Sound Fund in previous years. Several sources contributed to this effort, which included support from several Eagle Scout participants as well as the Berlin Youth Services. Eagle Scouts have completed projects associated with installing markers on catch basins. The Town will continue to support this activity in subsequent years if proposed by the Eagle Scouts.	2. Coordinate curb marker installation through youth programs.	Town Engineer and Berlin Youth Services	1-Jul-17	Ongoing	Trail construction on both sides of the Town Hall property bridge over the Mattabassett River at 240 Kensington Road that had initiated in 2022 by the Eagle Scouts had continued through and was completed in 2023.
	889 1661 6949						
	Completed/Ongoing	Yearly river cleanup in coordination with the Conservation District; Silver City Bass also conducts a cleanup of Silver Lake (south portion of Town) every Spring.	3. Sponsor river cleanups with particular attention to the Mattabassett River.	Town Engineer with MRWA	1-Jul-17	Ongoing	A river cleanup is typically completed on an annual basis in mid to late spring. The Town plans to support similar activities in 2025.
	Ongoing	Since 1992, the Connecticut River Watch Program sponsored by the Connecticut River Coastal Conservation District has involved more than 200 people in collecting water quality and aquatic macroinvertebrate samples from the Middletown River and conduction stream walks to survey the physical characteristics of the river. This data is used to support the Connecticut River Watch Program.	4. Support the Connecticut River Coastal Conservation District by providing information about volunteer opportunities and the Connecticut River Watch Program.	Town Planner	1-Jul-17	2017	
		On April 21, 2024, the Town, Berlin Land Trust, Stop and Shop Supermarket and Berlin Bank and Trust all contributed to a Townwide Earth Day Cleanup.	Removal of trash from roadsides, trailheads and the Silver Lake boat launch.	All Volunteers	NA	2024	Earth Day efforts anticipated to continue yearly
BMP #3 Illicit Discharge Detection and Elimination Plan (IDDE)							
ID1: Develop an Illicit Discharge Detection and Elimination (IDDE) Program.	Completed	Section XD.3 of the Town of Berlin Zoning Regulations prohibits nonstormwater discharges to the storm drainage system.	1. Prohibit future nonstormwater discharges to the storm drainage system by regulation.	Town Planner	30-Jun-18	Prior to 2017	
	Completed	Section XIV.B authorizes the Zoning Enforcement Officer to enforce Zoning Regulations, and Section 8-12 of the Connecticut General Statutes allows fines to be imposed for noncompliance. The town typically alerts the Connecticut Department of Energy & Environmental Protection (CTDEEP) of any violations, which in turn issues fines to offenders. Therefore, this requirement is being met.	2. Establish legal authority for the IDDE Program.	Town Planner	30-Jun-18	Prior to 2017	6,130 LF
	Completed/Ongoing	The Town typically relies on resident complaints to identify questionable discharges from outfalls or illegal dumping. Various departments including DPW, Health, Fire Marshal, Water, and Police maintain records of phone calls and reports that are received from staff and residents.	3. Develop a written program for citizen reporting of illicit discharges.	Town Engineer	30-Jun-18	Prior to 2017	
	Ongoing	Town continues to monitor for existing illicit discharges.	4. Eliminate existing illicit discharges	Town Engineer	30-Jun-18	Ongoing	Since 2021, the Town has jetted and inspected (via in-pipe CCTV) over 2,500 LF of stormwater piping and associated structures. No illicit discharges were observed, but all related piping/structures were cleaned and all required repairs made. The Town reinitiated the identification and screening of outfalls as part of the mapping process throughout 2023. Total LF inspected and cleaned was 2,023 LF. Inspections and repairs continued in 2024 and will continue through 2025.
	Completed/Ongoing	The Town cleans over 2,500 catch basins annually. Town departments maintain a log of phone calls and reports that are received from staff and residents, and investigates these on an ongoing basis.	5. Maintain a record of illicit discharge abatement activities and progress of mapping, prioritization, and investigations to follow.	Town Engineer	30-Jun-18	Completed annually	
		in 2024 is 3,630.					

BMP	Status	Activities in Current Reporting Period	Measurable Goals	Responsible Party	Due	Date Completed or Projected Completion Date	Additional Details
ID2: Develop mapping of storm drainage system and outfalls.	Completed/Ongoing	The Town continues to identify and map storm drainage systems and outfalls. To date 932 basins and 134 outfalls have been identified and mapped.	1. Develop mapping of all stormwater discharges from a pipe or conduit located within and owned or operated by the town and all interconnections with other MS4s (in Geographic Information System [GIS] format).	Town Engineer	30-Jun-19	30-Jun-19	As of early-2023, over 98% of the entire Town stormwater system has been mapped and is actively updated. This is an ongoing process as outfalls are maintained and will continue through 2025.
	Ongoing		2. Define catchments to all outfalls.	Town Engineer	30-Jun-19	30-Jun-19	This is expected to continue in 2025.
ID3: Implement catchment investigation procedures.	Completed/Ongoing	Catch basins and streets not in the immediate vicinity of the Mattabesett River or its tributaries have been investigated and prioritized based on field observations, grade, location, and registered complaints. (A 2002 report prioritized 289 catch basins close to the Mattabesett River and its tributaries.) The Town cleans critical catch basins annually and when complaints are lodged. At least half of the catch basins in the town are inspected and cleaned on an annual basis. Catch basin cleaning is done by a vendor while street sweeping is completed by the town.	1. Assessment and priority rankings of catchments	Town Engineer, Highway Department	30-Jun-19	30-Jun-19	Catch basins throughout the Town continue to be routinely inspected and cleaned.
	In Progress	The Highway Department staff continues to use the summary of the priority areas for catch basin cleaning and street sweeping.	2. Investigate catchments for suspected illicit discharges.	Town Engineer, Highway Department, Fire Marshal		By November 30, 2020	As suspected illicit discharges are detected or reported to the Town, these are investigated. The Town plans to continue these investigations in 2025.
	In Progress	The Town was able to initiate screening the priority outfalls for the listed impairment at a number of impaired waters outfalls in late-2021. See additional comments.	a. Dry weather screening of every MS4 outfall and interconnection b. Complete catchment investigation procedure in problem catchments. c. Complete catchment investigation procedure in catchments where information indicates sewer input based on outfall/interconnection screening. d. Complete Catchment Investigation Procedure in 40 percent of the area served by all MS4 catchments. e. Complete catchment investigation procedure in 100 percent of the area served by all MS4 catchments.	Town Engineer, Highway Department		October 2018 – July 2020 80 percent completion by November 30, 2020; 100 percent completion by June 30, 2022 By June 30, 2022 By June 30, 2022 By June 30, 2027	The Town had initiated the highest priority type of sampling/screening - impaired waters MS4 outfalls - and is maintaining a list of the six worst-case outfalls for annual sampling in late-2021 through 2022. The Town has conducted stormwater monitoring of Town owned facilities in 2024 and plans to expand outfall sampling to include additional dry and wet weather screening for catchments in 2025 (see the attached MS4 Outfall Sampling table).
	Ongoing		3. Removal and Confirmation	Town Engineer	Within 1 year of ID	Within 1 year of identifying ID	
	Completed/Ongoing	Annual training of employees has been completed by various Town officials (Town Engineer, Highway Department, Fire Marshal).	4. Annual employee training	Town Engineer	30-Jun-18	Completed annually	The Town holds tailgate meetings for most annual trainings with pertinent staff associated with this task and plans to continue this in 2025.
		BMP #4 Construction Site Stormwater Runoff Control Plan (CSW)					
CSW1: Legal Authority	Completed	Section X A of the Zoning Regulations alerts applicants to requirements for a CTDEP Stormwater Permit. Prior to the submission of any local land use application, a preapplication meeting is held with town staff and the applicant's engineers. During this meeting, all applicants are made aware that they may need a CTDEEP General Permit for Stormwater Discharge. All plans approved by land use commissions and the Engineering office are required to have notes on the plan indicating that they meet the standards of the 2002 <i>Sediment and Erosion Control Guidelines</i> and the 2004 <i>Stormwater Quality Manual</i> .	1. Require developers, construction site operators, or contractors to maintain consistency with the 2002 <i>Guidelines for Soil Erosion and Sedimentation Control, Connecticut Stormwater Quality Manual</i> , and all stormwater discharge permits issued by the DEEP within the town.	Town Planner	30-Jun-19	Prior to 2017	The Town receives assistance from the Conservation Commission regarding improper installation of erosion and sediment controls.
	Completed	The Berlin Zoning Regulations expressly require construction site operators to control discarded wastes, concrete truck washout, litter, chemicals, and sanitary wastes.	2. Require the implementation of additional measures to protect/improve water quality as deemed necessary by the town.	Town Planner	30-Jun-19	Prior to 2017	
	Completed	An inspection program for construction sites against which complaints are logged has been developed and executed by engineering staff, wetlands staff, and the Zoning Enforcement Officer. Preconstruction kickoff meetings are held, and inspections take place on a regular basis during construction on major projects.	3. Require the town to carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance with municipal regulations, ordinances, or programs related to the management of the Town's MS4. Inspections shall be conducted to inventory privately owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive drainage from the Town's MS4.	Zoning Enforcement Officer/ Wetlands Agents	30-Jun-19	Prior to 2017	

BMP	Status	Activities in Current Reporting Period	Measurable Goals	Responsible Party	Due	Date Completed or Projected Completion Date	Additional Details
CSW1: Legal Authority (cont'd)	Completed	The Town currently requires applicants to provide a stormwater operation and maintenance plan with all new developments.	4. Require the owner of a site seeking development approval from the town to provide and comply with a long-term maintenance plan and schedule to ensure the performance and pollutant removal efficiency of privately owned retention ponds, detention ponds, and other stormwater basins that discharge to or receive discharge from the Town's MS4 including short-term and long-term inspection and maintenance measures to be implemented by the private owner.	Town Planner	30-Jun-19	Completed	
	Completed/Ongoing	This occurs during the course of the normal permitting process.	5. Require the permittee to control through interagency or interjurisdictional agreements the contribution of pollutants between the Town's MS4 and MS4s owned or operated by others.	Town Planner	30-Jun-19	Prior to 2017	In October 2023, the Town corresponded with the City of Middletown Engineering Department regarding three areas of shared/contributing MS4 systems. Both municipalities agreed that should stormwater runoff contamination be identified in those areas, both parties will make the effort to investigate.
CSW2: Inter-departmental coordination	Completed/ Ongoing	The town achieves this goal through the normal function of its municipal departments, which are statutorily obligated to work in concert during the review and permitting of land disturbance projects within the MS4.	1. Develop and implement a plan outlining how all municipal 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.	Town Engineer	1-Jul-17	Prior to 2017	
CSW3: Site Review and Inspection	Completed/Ongoing	Both the commercial and residential construction site inspection checklists include sediment and erosion control.	1. Conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts on water quality.	Zoning Enforcement Officer (ZEO)/Inland Wetland Agency (IWA)/Town Engineer	1-Jul-17	2017	The Town currently requires inspections and reporting on the condition of on-site stormwater management systems in existing and new developments.
CSW3: Site Review and Inspection (cont'd)	Completed	An inspection program for construction sites against which complaints are logged has been developed and executed by engineering staff, wetlands staff, and the Zoning Enforcement Officer. Preconstruction kickoff meetings are held, and inspections take place on a regular basis during construction on major projects. The Town Engineer has performed inspections of detention and retention basins as needed.	2. Conduct site inspections and enforcement to assess the adequacy of the installation, maintenance, operation, and repair of construction and postconstruction control measures.	ZEO/IWA	1-Jul-17	2017	
CSW4: Public Involvement	Completed/Ongoing	Town holds public hearings regarding land disturbance and development activities.	1. Implement a procedure for receipt and consideration of information submitted by the public concerning proposed and ongoing land disturbance and development activities.	Town Planner	1-Jul-17	Prior to 2017	
CSW5: State Permit Notification	Completed/Ongoing	Prior to the submission of any local land use application, a preapplication meeting is held with town staff and the applicant's engineers. During this meeting, all applicants are made aware that they may need a CTDEEP General Permit for Stormwater Discharge.	1. Implement a procedure for notifying developments or contractors 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 if the project disturbs 1 or more acres of land and results in a point source discharge to the surface waters of the state directly or through the Town's MS4. Include a provision informing developers/contractors of their obligation to provide a copy of the Stormwater Pollution Control Plan to the town upon request.	Town Planner/ Town Engineer	1-Jul-17	Prior to 2017	
CSW6: Additional measures for discharges to waters for which bacteria is a stormwater pollutant of concern.	Completed/Ongoing	The review process for development projects has been streamlined to include an analysis of the preconstruction and postconstruction drainage runoffs from the development site.	1. Conduct site plan reviews that incorporate consideration of stormwater controls or management practices to prevent or minimize impacts on water quality.	Town Engineer	1-Jul-17	Ongoing	

BMP	Status	Activities in Current Reporting Period	Measurable Goals	Responsible Party	Due	Date Completed or Projected Completion Date	Additional Details
BMP #5 Postconstruction Stormwater Management (DS)							
DS1: Legal Authority	Completed/Ongoing	The Berlin Wetlands and Watercourses Commission has adopted a regulatory 50-foot upland review area that requires that all activity within that area be reviewed and approved by the commission. Wherever possible, the town encourages low-impact standards (reduction of impervious coverage, stormwater detention, 80 percent total suspended solids removal, etc.).	1. Establish ordinance, bylaw, regulation, standard, condition of approval, or other appropriate legal authority for Low Impact Development (LID) and runoff reduction site planning and development practices.	Town Planner	30-Jun-22	By June 30, 2021	
DS2: Enforce Runoff Reduction/ Low Impact Development (LID) Measures	In Progress	The existing Subdivision and Zoning Regulations require stormwater management analysis/measures for projects under review. In many cases, the requirement to attenuate flow from the 100-year storm event results in retention of water quality volumes to the referenced levels, and enforcement provisions are included in these (and other) Town regulations relative to runoff reduction.	1. For redevelopment of sites that are currently developed with Directly Connected Impervious Areas (DCIA) of 40 percent or more, retain on site half the water quality volume for the site.	Town Planner, Various Departments	30-Jun-22	By June 2022	The Town issued a new Plan of Conservation and Development (effective 2023-2033) and will be updating regulations accordingly. The 2023 POCD plan included the initiation of developing a study of the Mattabesett/Sébethe River Basin to determine the most appropriate ways to improve drainage and minimize the flood plain.
			2. For new development and redevelopment of sites with less than 40 percent DCIA, retain the water quality volume for the site.	Town Planner		By June 2022	
DS3: Directly Connected Impervious Areas	In Progress		1. Map and calculate DCIA in urbanized area.	Town Engineer	30-Jun-20	By December 2020	The Town will continue to work on this task through 2025.
DS4: Ensure long-term maintenance of BMPs.	In Progress	The Town Engineer has developed an inventory of existing detention and retention basins utilizing AutoCAD and/or GIS software for subdivisions.	1. Incorporate locations of detention/retention basins in GIS stormwater mapping.	Town Engineer/ DPW	30-Jun-20	By July 2020 and ongoing	Locations of detention/retention basins have been mapped in GIS as of early-2022, and will continue verifying the accuracy of the maps.
			2. Inspect stormwater basins.				Stormwater basin inspections are ongoing and will continue on an as-needed basis.
			3. Require developers to submit as-built record drawings and/or Global Positioning System (GPS) coordinates/GIS mapping of all stormwater structures/basins.				Developers are required to provide as-built drawings with exact locations of all stormwater structures/basins. The Town actively adds these features to the Town-wide GIS mapping system.
BMP #6 Pollution Prevention / Good Housekeeping (OM)							
OM1: Employee Training	Completed/Ongoing	Annual training of employees has been completed by the Fire Marshal at the Physical Services Complex. Fact sheets have been completed and distributed to Public Works employees. They are included in the Operations and Maintenance Plan specifically for municipal operations. The fact sheets developed include the following: - Proper handling of waste oil and other waste material generated by vehicle maintenance - Proper procedures for catch basin cleaning and disposal of catch basin sediments - Proper handling and disposal of paints and other chemicals that may be stored at the Public Works garage - Proper handling of fertilizers and pesticides and optimum application rates	1. Continue a formal employee training program.	Refer to Table 9-2 in SMP.	30-Jun-19	Prior to 2017	All employees were (in the past) provided Hazard Communications training at the Physical Services Complex by the Fire Marshal. The Town has established a dedicated training center for on-going training, which will include O&M / Housekeeping. The Town plans to continue this required annual training in 2025 and thereafter. Also, the Parks and Grounds Department employees who handle/apply pesticides (including new employees) are routinely trained and have obtained application licenses through CTDEP.
OM2: Infrastructure Repair, Rehabilitation, and Retrofit	Completed/Ongoing	Town maintains infrastructure continuously. Catch basins and other infrastructure are maintained to effectively convey stormwater. Approximately ½ to 2/3 of catch basins are cleaned per year, with especially problematic basins cleaned each year.	1. Implement program to repair/rehab infrastructure to reduce or eliminate pollutants.	DPW	30-Jun-20	Ongoing	The Town fixes and maintains the stormwater infrastructure on a routine basis. Almost all catch basins in Town were cleaned in 2023. Inspections and cleaning as needed continued in 2024 and will be an ongoing effort.
OM3: MS4 Property and Operations Maintenance	Completed/Ongoing	The town maintains town-owned lands in such a way as to be sensitive to the quantity and quality of stormwater runoff.	1. Operate and maintain town-owned lands to minimize discharge of pollutants.	DPW	1-Jul-17	Ongoing	
OM4: Road and Bridge Maintenance	Completed/Ongoing	The town limits the use of sand on roads, sweeps roads regularly, and ensures that stormwater is flowing as designed.	1. Operate and maintain town-owned roads in a manner that minimizes discharge of pollutants.	DPW	1-Jul-17	Ongoing	
OM5: Snow Management Practices	Completed/Ongoing	The town continues to use treated salt product instead of road sand to reduce ice on roads.	1. Operate and maintain snow/ice management equipment and supplies to minimize discharge of pollutants.	DPW	1-Jul-17	Prior to 2017	
OM6: Interconnected MS4s	Completed/Ongoing	The town works with the Department of Transportation and other owners of interconnected MS4s to ensure compliance.	1. Ensure coordination of and communication with the operators of interconnected MS4s.	Town Engineer	1-Jul-17	Ongoing	
OM7: Sources Contributing Pollutants to the MS4	Completed/Ongoing	Occurs as part of normal zoning/wetland enforcement	1. Control contribution of pollution from non-MS4 properties.	Land Use Commissions	1-Jul-17	Ongoing	

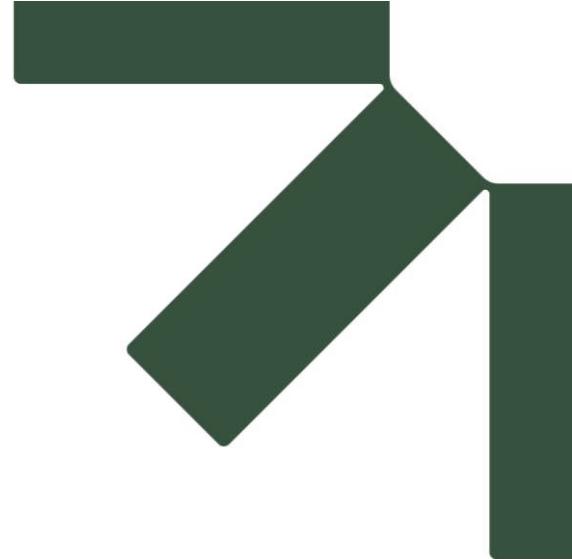
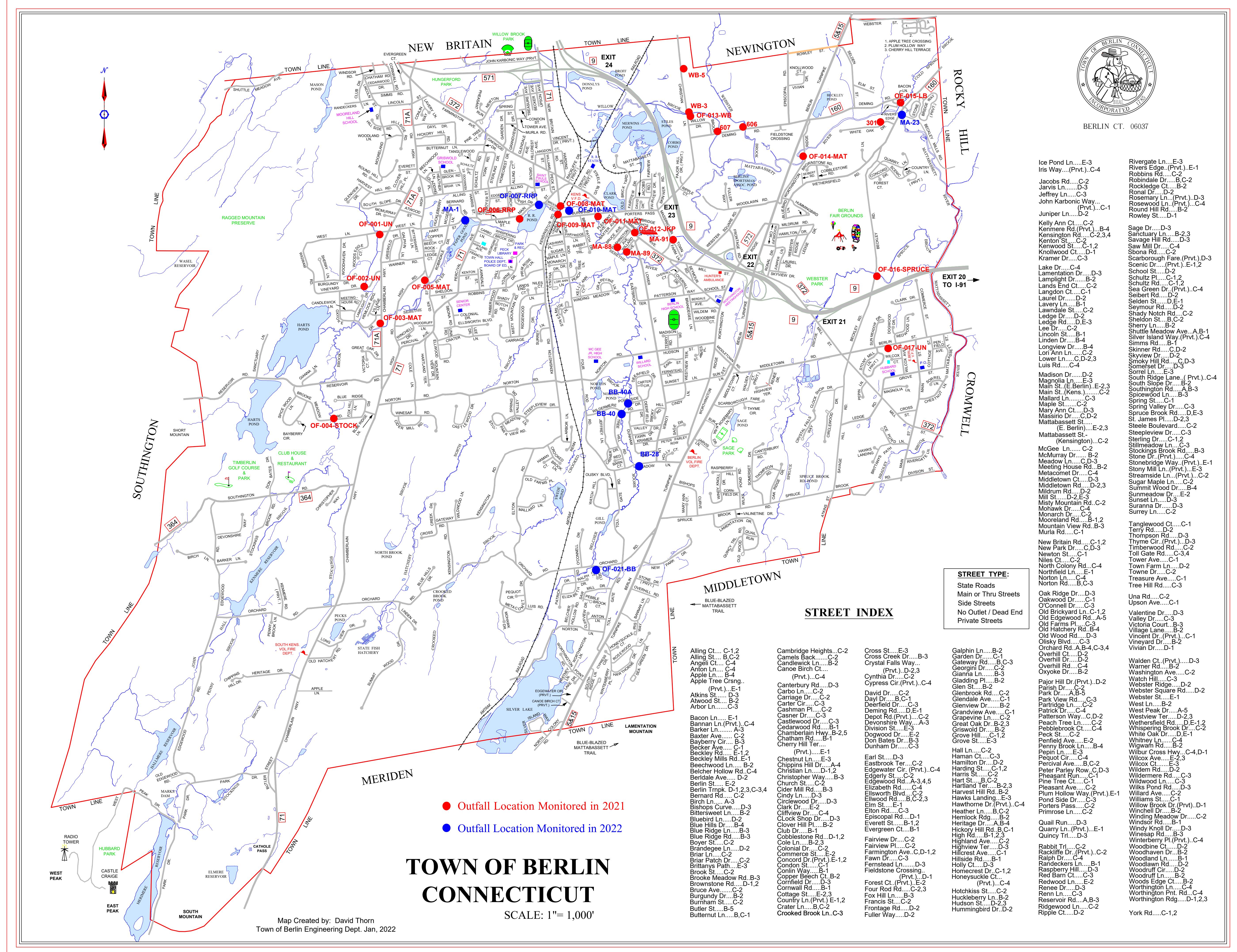
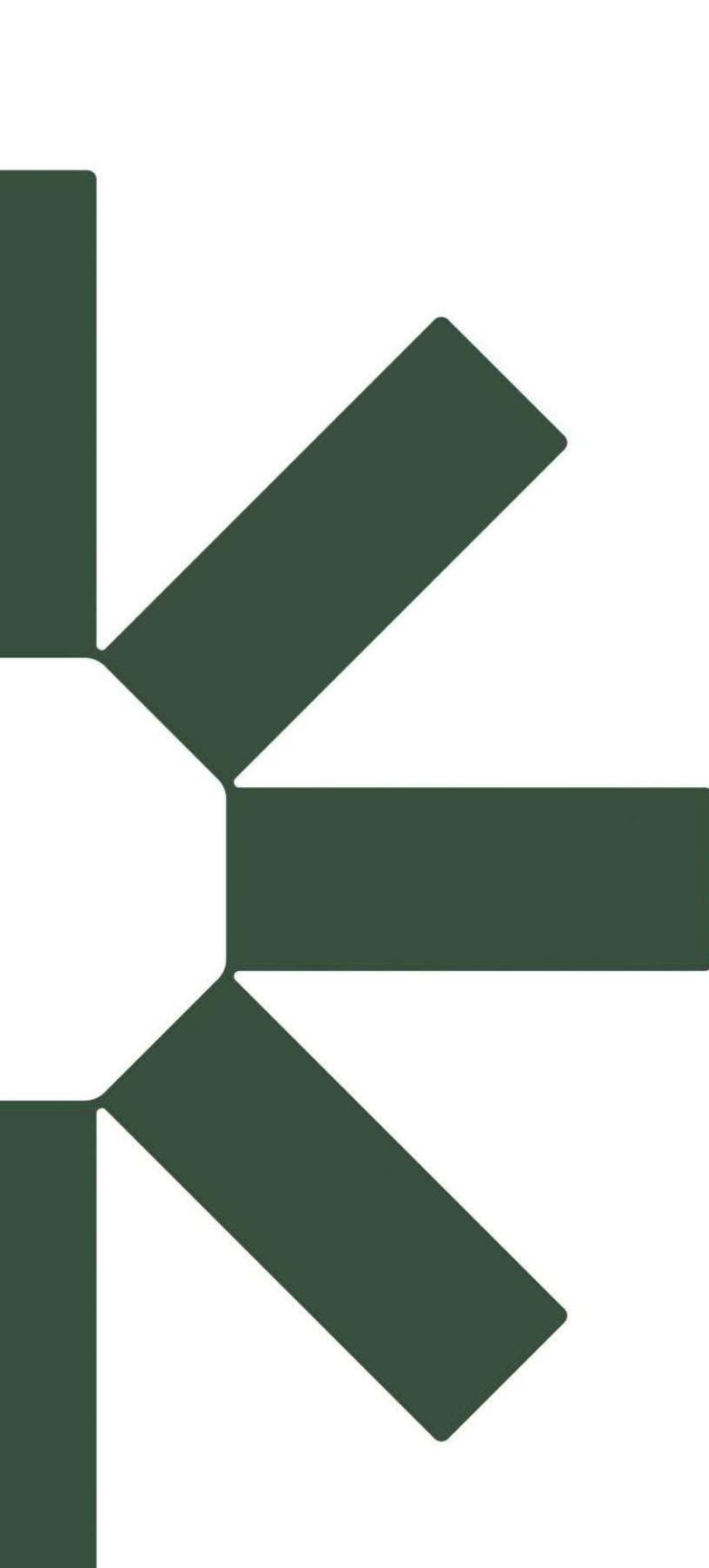


Figure: Outfall Screening Location Map (2022)





Making Sustainability Happen