



westonandsampson.com

273 Dividend Road
Rocky Hill, CT 06067
tel: 860.513.1473

REPORT

April 1, 2019

TOWN OF
Branford
CONNECTICUT

2018 Stormwater Annual Report

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



TABLE OF CONTENTS

	Page
I. INTRODUCTION / OVERVIEW.....	1
I.1 INTRODUCTION.....	1
I.2 TOWN INFORMATION	1
I.3 STORMWATER MONITORING	2
I.4 ANNUAL REPORT DEVELOPMENT TEAM	2
1 PUBLIC EDUCATION AND OUTREACH.....	1-1
1.1 BMP Summary	1-1
1.2 Public Education and Outreach Activities	1-2
1.3 Activities Implemented to Educate the Community on Stormwater	1-3
2 PUBLIC INVOLVEMENT / PARTICIPATION.....	2-1
2.1 BMP Summary	2-1
2.2 Public Involvement/ Participation Activities	2-2
2.3 Public Involvement/ Participation.....	2-2
3 ILLICIT DISCHARGE DETECTION AND ELIMINATION.....	3-3
3.1 BMP Summary	3-3
3.2 IDDE Activities	3-5
3.3 Citizen Reports.....	3-5
3.4 Illicit Discharges	3-6
3.5 Method Used to Track Illicit Discharge Reports	3-6
3.6 Actions Taken to Address Septic Failures	3-6
3.7 IDDE Reporting Metrics.....	3-7
3.8 IDDE Training for Employees	3-7
4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL.....	4-1
4.1 BMP Summary	4-2
4.2 Construction Site Runoff Control Activities	4-3
5 POST-CONSTRUCTION STORMWATER MANAGEMENT.....	5-1
5.1 BMP Summary	5-2
5.2 Post-Construction Stormwater Management Activities	5-3
5.3 Post-Construction Stormwater Management Reporting Metrics	5-3
5.4 Method to Determine DCIA	5-4
6 POLLUTION PREVENTION / GOOD HOUSEKEEPING.....	6-1
6.1 BMP Summary	6-1
6.2 Pollution Prevention/ Good Housekeeping Activities	6-3
6.3 Pollution Prevention/ Good Housekeeping Reporting Metrics.....	6-4
6.4 Catch Basin Cleaning Program	6-5
7 MONITORING RESULTS	7-1
7.1 Impaired Waters Investigation and Monitoring Program	7-2
7.2 Screening Data for Outfalls to Impaired Waterbodies	7-3
8 ADDITIONAL IDDE PROGRAM DATA	8-1
8.1 Assessment and Priority Ranking of Catchments Data.....	8-1
8.2 Outfall and Interconnection Screening and Sampling Data.....	8-2
8.3 Catchment Investigation Data	8-3

9	CERTIFICATION AND SIGNATURE	9-1
9.1	CERTIFICATION REQUIREMENTS	9-1
9.2	PLAN CERTIFICATION AND SIGNATURE	9-1

LIST OF APPENDICES

Appendix AOutfall Maps

I. INTRODUCTION / OVERVIEW

I.1 INTRODUCTION

This 2018 Stormwater Annual Report was developed by Weston & Sampson on behalf of the Town of Branford (Town). The Annual Report describes the status of compliance with the 2017 CTDEEP General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems (MS4s). The Town has the Permit Number GSM 000068. Previous annual reports were written in compliance with the 2004 Permit. This is the second annual report for the 2017 Permit. The report includes an assessment of the identified best management practices (BMPs) in the Stormwater Management Plan (SWMP) and the progress towards achieving the implementation dates and measurable goals for each of the Minimum Control Measures. The report also includes stormwater monitoring data results for samples collected in 2018.

The six minimum control measures include:

1. Public Education and Outreach
2. Public Involvement / Participation
3. Illicit Discharge Detection and Elimination
4. Construction Site Stormwater Runoff Control
5. Post-Construction Stormwater Management
6. Pollution Prevention / Good Housekeeping

This report documents the Town's efforts to comply with the 2017 General Permit to the maximum extent practicable (MEP) for the period between January 1, 2018 to December 31, 2018 with updates on tasks to be completed in fiscal year 2018 ending in June 2019.

I.2 TOWN INFORMATION

The Town of Branford covers an area of approximately 28.0 square miles and is home to approximately 28,026 residents according to the 2010 Census. Approximately 20 square miles of the Town is classified as Urbanized Area (UA) according to the 2010 Census. Approximately 6.0 square miles of the Town is comprised of waterbodies and watercourses. An outfall map that includes urbanized area is included in Appendix A.

Sub regional drainage basins and major watercourses include Branford River, Farm River and South Central Shoreline. In addition, there are several significant lakes and ponds within the town including the Branford Supply Ponds and Linsley Pond.

The Town of Branford has a Representative Town Meeting form of government, which is led by the First Selectman. The Department of Public Works is responsible for roads and parking lots. The General Government Buildings is responsible for buildings. Parks and Recreation is responsible for parks. The Board of Education is responsible for their own facilities. Several commissions within the Town have jurisdiction over development and include the following:

- Inland Wetlands and Natural Resources Department
- Planning & Zoning Department

I.3 STORMWATER MONITORING

The 2017 General Permit requires towns to conduct wet weather screening of outfalls that discharge to impaired waters, beginning July 1, 2018. At least fifty percent (50%) of these outfalls shall be screened by July 1, 2020, and one hundred percent (100%) of the outfalls shall be screened by July 1, 2022. Outfalls will require follow-up investigation if the results are greater than the parameters listed in the General Permit. The six outfalls with the highest contribution of any of the pollutants of concern will be determined by July 1, 2021. These six priority outfalls will be monitored annually.

For this reporting year (2018), stormwater sampling was not conducted. The Town plans to start sampling outfalls to impaired waters in 2019.

I.4 ANNUAL REPORT DEVELOPMENT TEAM

The Town of Branford hired the consultant Weston & Sampson in January 2019 to assist the Town in complying with past due and upcoming BMPs. A list of the project team is provided below.

Table 1.1 SWMP DEVELOPMENT TEAM

Name	Organization & Title
James B. Cosgrove	Town of Branford First Selectman
John Hoefflerle	Town of Branford Town Engineer
Dan McGowan	Town of Branford Solid Waste Manager
Harry Smith	Town of Branford Town Planner
Diana Ross	Town of Branford Director of Inland Wetlands
Raju Vasamsetti, P.E.	Weston & Sampson Project Manager
Lauren Coles, E.I.T.	Weston & Sampson Project Engineer

1 PUBLIC EDUCATION AND OUTREACH

Under the General Permit Section 6(a)(1), the Town is required to “implement a public education program to distribute educational materials to the permittee’s community or conduct equivalent outreach activities about the sources and impacts of stormwater discharges on waterbodies and the steps that the public can take to reduce pollutants in stormwater runoff.” The following BMPs were selected by the Town to address the Public Education and Outreach minimum control measure of the General Permit (Section 6(a)(1)/page19):

1.1 BMP Summary

Table 1.1 Public Education and Outreach BMP Measurable Goals and Implementation Dates & Status							
BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
1-1 Implement public education and outreach	Complete	<ul style="list-style-type: none"> Continue to display handouts in Town Hall. Display and distribute stormwater info at annual Branford Festival and Arbor Day. The SWMP and links to stormwater websites/ fact sheets are posted on the Town website. 	Information available through Brochure/ Fact Sheets at Town Hall and Website.	Solid Waste Manager, Town Engineer	Ongoing		
1-2 Address education/ outreach for pollutants of concern.	Complete	Ongoing education and outreach targeting pollutants of concern.	Provide residents with educational events and information about water quality and stormwater pollutants.	Solid Waste Manager, Town Engineer	Ongoing		Farm River and Short Beach neighborhood study with East Shore District Health Department (ESDHD) and Yale is underway (citizen science project)

Table 1.1 Public Education and Outreach BMP Continued
Measurable Goals and Implementation Dates & Status

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
1-3 Septic System Maintenance	Complete	The Town runs a low cost pump out service for non-sewered areas of town and also provides information to the health district if inspections of systems show problems. Regional solar powered pump out boat services by ESDHD	Pump septic tanks as needed.	East Shore District Health Department	Ongoing		The pump out program is ongoing. The health department is working on a system to track all septic system pump outs including private vendors.

1.2 Public Education and Outreach Activities

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

The Town will continue to display brochures/fact sheets at the Town Hall and at the annual Branford Festival.

The links to stormwater information online will be updated as new material becomes available.

The information in the printed and online fact sheets will be updated when new information becomes available.

The study with ESDHD and Yale will provide citizen input and education on pollutants of concern in their neighborhood. Dog waste receptacles are located in public parks.

Outreach to educate the public on the effects of bacteria in waterways through Annual Litter Day/Earth Day Event hosted by the Branford Land Trust and Branford River Project.

1.3 Activities Implemented to Educate the Community on Stormwater

Table 1.2 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.
Brochures/ Fact sheets at Town Hall and annual Branford Festival.	Developers and homeowners (approx.. 200)	Sources of Stormwater pollutants (car oil, fertilizer, pet waste), LID- Rain Gardens, Managing Stormwater Naturally	Bacteria Nitrogen Phosphorous Sediment	Solid Waste Manager Inland Wetlands Department
Stormwater Information on Website http://www.branford-ct.gov/lnwet/stormwater	Information is available to anyone who views the town website including Developers and Town residents	Sources of Stormwater pollutants (car oil, fertilizer, pet waste), LID- Rain Gardens Managing Stormwater Naturally	Bacteria Nitrogen Phosphorous Sediment	Town Engineer
Branford Festival Outreach	General Public (approx.. 400)	Pet Waste	Bacteria	Solid Waste Manager
Arbor Day Outreach	General Public (approx.. 50)	Pet Waste	Bacteria	Solid Waste Manager
Litter Day/ Earth Day	General Public (approx.. 50)	Pet Waste, Water Pollution caused from litter, LID- Rain Gardens Managing Stormwater	Bacteria	Solid Waste Manager
East Shore District Health Department/ Yale/ Branford Study of Short Beach Neighborhood	Short Beach Residents, state Rep. Comey (approx.. 30)	Septic Systems, Fertilizers. IDDE	Bacteria, Nitrogen Phosphorous	Town Engineer, ESDHD

2 PUBLIC INVOLVEMENT / PARTICIPATION

Under the General Permit Section 6(a)(2), the Town is required to “provide opportunities to engage their community to participate in the review and implementation of the permittee’s Plan.” Public participation benefits the program by increasing public support, including additional expertise and involving community groups/ organizations. The following BMPs were selected by the Town to address the Public Involvement / Participation minimum control measure of the General Permit (Section 6(a)(2)/page 21):

2.1 BMP Summary

Table 2.1 Public Involvement/Participation BMP Measurable Goals and Implementation Dates & Status							
BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
2-1 Continue availability of Final Stormwater Management Plan to the public.	Ongoing	Posted Stormwater Management Report online.	Post Stormwater Management Report online.	Town Engineer	Ongoing	Completed 3/31/2017	
2-2 Comply with public notice requirements for Annual Reports	Ongoing/ In Progress	Post Annual Report online. This will be completed by 2/15/2019.	Post Annual Report online.	Town Engineer	2/15/2019	Projected 2/15/2019	
2-3 Brochures/ factsheets at Town Hall.	Complete	Updated brochures/ fact sheets. Continue to display in Town Hall.	Place Brochure/ Fact Sheets at Town Hall.	Town Engineer Inland Wetlands	7/1/2018	Completed 7/1/2017	

2.2 Public Involvement/ Participation Activities

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

Brochures/ Factsheets will remain posted at the Town Hall.

Next year's annual report will be posted online.

Town holds quarterly stormwater stakeholder meetings to review SMP implementation progress.

2.3 Public Involvement/ Participation

Table 2.2 Public Involvement/ Participation Reporting Metrics

Metrics	Implemented	Date	Posted
Availability of the Stormwater Management Plan announced to public	Yes	7/1/2017	http://www.branford-ct.gov/Engineering
Availability of Annual Report announced to public	On Schedule	Projected 2/15/2019	http://www.branford-ct.gov/Engineering

3 ILLICIT DISCHARGE DETECTION AND ELIMINATION

Under the General Permit Section 6(a)(3), the Town is required to develop a written Illicit Discharge Detection and Elimination (IDDE) program. The IDDE program is designed to “provide the legal authority to prohibit and eliminate illicit discharges to the MS4; find the source of any illicit discharges; eliminate those illicit discharges; and ensure ongoing screening and tracking to prevent and/ or eliminate future illicit discharges.” The following BMPs were selected by the Town to address the Illicit Discharge Detection and Elimination minimum control measure of the General Permit (Section 6(a)(3) and Appendix B/page 22):

3.1 BMP Summary

Table 3.1 Illicit Discharge Detection and Elimination BMP Measurable Goals and Implementation Dates & Status							
BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
3-1 Develop written IDDE program	In progress	The Town did not finish writing an IDDE program. An IDDE report will be written in 2019 based on the IDDE program template developed by UCONN's CT NEMO Program.	Develop written plan of IDDE program	Town Engineer, Inland Wetlands, DPW	7/1/2018	Projected 7/1/2019	
3-2 Develop list and maps of all MS4 stormwater outfalls in priority areas	Ongoing	Mapping forms and mobile data collection setup to add unmapped outfalls.	Map and list all outfalls, collect attributes on newly discovered outfalls.	Town Engineer DPW	7/1/2019	Projected 7/1/2019	Ongoing mapping and data collection as unmapped outfalls are found.

Table 3.1 Illicit Discharge Detection and Elimination BMP- Continued

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
3-3 Implement citizen reporting program	Complete	The Town receives complaints via online reporting to DPW. Calls are logged into this system.	Post point of contact phone number and Contact Us Form listed on the Town website.	Town Engineer DPW	7/1/2017	Completed 7/1/2017	"Report a Problem" on Town Homepage
3-4 Establish legal authority to prohibit illicit discharges	In progress	The Town is writing a Town Ordinance regarding non-stormwater discharges based on the template produced by UCONN's CT NEMO Program.	Write and implement a Town Ordinance	Town Engineer DPW	7/1/2018	Projected 7/1/2019	The ordinance will be based on the CT NEMO template.
3-5 Develop record keeping system for IDDE tracking	Complete	The Town receives complaints via online reporting to DPW and Fire Department. Calls are logged into this system.	Document IDDE findings in Annual Reports	Town Engineer DPW	7/1/2017	Completed 7/1/2018	
3-6 Address IDDE in areas with pollutants of concern	Ongoing/ In progress	IDDE program prioritizes areas with pollutants of concern. Work with East Shore District Health Department (ESDHD) to assess septic areas.	IDDE program will address priority areas with high levels of Bacteria.	Town Engineer ESDHD	Not specified	Ongoing	The Town of Branford provides low cost septic pump out program.

3.2 IDDE Activities

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

The IDDE program will be written in 2019. The written IDDE program will be updated as needed throughout the permit term. And updates will be included in the Annual Report

IDDE training for key personnel and Legal Authority and Ordinance adoption will be completed in 2019.

MS4 system mapping will be continued by locating system components in the field. Dry weather screening will be conducted in 2019.

Maintain master IDDE tracking spreadsheet and ensure all employees involved in IDDE program understand the logging process.

3.3 Citizen Reports

Citizen reports of suspected illicit discharges received during this reporting period.

Table 3.2 Suspected Illicit Discharge Reports

Date of Report	Location / suspected source	Response taken
No reports received during reporting period		

3.4 Illicit Discharges

Record of illicit discharges occurring during the reporting period and SSOs occurring July 2012 through end of reporting period.

Table 3.3 SSO Reports						
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)
No records received during reporting period						

3.5 Method Used to Track Illicit Discharge Reports

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

The DPW is responsible for tracking and responding to illicit discharge reports. The ESDHD is responsible for tracking septic records for the Town. The Town Engineering Department is responsible for tracking sanitary sewer records.

3.6 Actions Taken to Address Septic Failures

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

Table 3.4 Septic Failures		
Location and nature of structure with failing septic systems	Actions taken to respond to and address the failures	Impacted waterbody or watershed, if known
2 Clark Avenue- Cracked Tank	Reported to ESDHD	No known impacts
28 Wallace St.- Cracked Tank	Reported to ESDHD	No known impacts

3.7 IDDE Reporting Metrics

Table 3.5 IDDE Reporting Metrics	
Metrics	
Estimated or actual number of MS4 outfalls	252*
Estimated or actual number of interconnections	Unknown
Outfall mapping complete	80%
Interconnection mapping complete	0%
System-wide mapping complete (detailed MS4 infrastructure)	70%
Outfall assessment and priority ranking	10%
Dry weather screening of all High and Low priority outfalls complete	0
Catchment investigations complete	0
Estimated percentage of MS4 catchment area investigated	0%

*See Map of Outfalls in Appendix A.

3.8 IDDE Training for Employees

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

Employees including DPW staff did not receive annual IDDE Training in 2018.
In 2019 Weston & Sampson will provide IDDE training that covers identifying and reporting illicit discharges and best management practices.

4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

The Town shall “implement and enforce a program to control stormwater discharges (to its MS4) associated with land disturbance or development (including re-development) activities from sites with one acre or more of soil disturbance, whether considered individually or collectively as part of a larger plan.” The program will be consistent with “the 2002 Guidelines for Soil Erosion and Sedimentation Control, as amended, the Connecticut Stormwater Quality Manual, and stormwater discharge permits issued by DEEP within the municipal or institutional boundary pursuant to CGS 22a-430 and 22a-430b.” The permittee will conduct site plan reviews, site inspections, and include procedures for public involvement. The Town has local regulations (shown in Table 4.1) that require construction runoff control measures.

Table 4.1 Stormwater Regulations

Regulations	Date	Erosion & Sediment Controls	Site Plan Review	Site Inspection and Enforcement
Zoning Regulations	2015	Section 6.10 Soil Erosion and Sediment Control	Section 9.5.E Formal Review	Section 6.10 Implementation Section 10.2 Enforcement
Subdivision Regulations	2013	Section 3.06 Erosion and Sedimentation Control	Section 5 Application Procedures	Section 5.01C Application Procedures Authorization
Inland Wetlands and Watercourse Regulations	2017	Section 7.6.Application Requirements	Section 7.8. Application Requirements	Section 14 Enforcement

The following BMPs were selected by the Town to address the Construction Site Stormwater Runoff Control minimum control measure of the General Permit (Section 6(a)(4)/page 25):

4.1 BMP Summary

**Table 4.2 Construction Site Stormwater Runoff Control BMP
Measurable Goals and Implementation Dates & Status**

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
4-1 Implement, upgrade, and enforce land use regulations or other legal authority to meet requirements of MS4 general permit	Ongoing/ In progress	Review and revise current town land use regulations to include reference to specific documents for design of sedimentation and erosion control BMPs	Upgrade and enforce land use regulations.	Town Planner, Inland Wetlands Enforcement Officer (IWEO), Zoning Enforcement Officer (ZEO_	7/1/2019	Projected 7/1/2019	Zoning Regulations, Subdivision Regulations, and Inland Wetland Regulations will be updated.
4-2 Develop/Implement plan for interdepartmental coordination in site plan review and approval	Complete	Multi-department site plan review meetings occur monthly.	Continue site plan review with peers.	Town Planner	7/1/2017	Completed 7/1/2017	See regulations listed in Table 4.1.
4-3 Review site plans for stormwater quality concerns	Complete	Conducted site plan reviews.	Continue site plan review according to regulations.	Town Planner, IWEO	7/1/2017	Completed 7/1/2017	See regulations listed in Table 4.1.
4-4 Conduct site inspections	Complete	Zoning Enforcement Officer (ZEO) and Inland Wetlands Enforcement Officer (IWEO) conduct regular site inspections.	ZEO and IWEO conduct site inspections.	ZEO and IWEO	7/1/2017	Completed 7/1/2017	See regulations listed in Table 4.1.

Table 4.2 Construction Site Stormwater Runoff Control BMP (Continued)

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
4-5 Implement procedure to allow public comment to site development	Complete	The Town utilizes their government structure for processing information submitted by the public for receipt and consideration. Special Exceptions have public hearing requirements.	Public comments are forwarded to the appropriate Department.	ZEO, IWEO and DPW	7/1/2017	Completed 7/1/2017	
4-6 Implement procedure to notify developers about DEEP construction stormwater permit	Complete	Continue notifying construction site developers and operators of requirements for registration.	Communicate to developers about DEEP construction stormwater permit through permitting process.	Town Planner	7/1/2017	Completed 7/1/2017	Stormwater Pollution Control Plans (SPCP) as required by CTDEEP.

4.2 Construction Site Runoff Control Activities

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

The Zoning Commission and Town Engineer will continue to review site plans in accordance with the various town regulations. Interdepartmental coordination will be continued.

The ZEO and IWEO will continue to conduct site inspections.

The Town Departments will continue to communicate to developers about DEEP construction stormwater permit through permitting process. Develop handout for procedures for permitting requirements.

5 POST-CONSTRUCTION STORMWATER MANAGEMENT

The Town shall require developers to “consider the use of low impact development (LID) and runoff reduction site planning and development practices prior to the consideration of other practices in the permittee’s land use regulations, guidance or construction project requirements to meet or exceed those LID and runoff reduction practices identified in the Stormwater Quality Manual.”

The Town currently has the following procedures for the enforcement of the stormwater regulations:

Zoning Regulations

February 1, 2015

Section 6.9 Drainage and Stormwater Control

Subdivision Regulations

February 1, 2013

Section 4.06 Storm Drainage

Inland Wetland and Watercourse Regulations

February 17, 2017

Section 14 Enforcement

The following BMPs were selected by the town to address the Post-Construction Stormwater Management minimum control measure of the General Permit (Section 6(a)(5)/page 27):

5.1 BMP Summary

Table 5.1 Post-Construction Stormwater Management BMP Measurable Goals and Implementation Dates & Status							
BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
5-1 Establish and/or update legal authority and guidelines regarding LID and runoff reduction in site development planning	Ongoing/ In Progress	Continue procedures for addressing post-construction BMPs including projects with 1 to 5 acres in disturbance. Formally, revise regulations by 7/1/2021.	Update regulations.	Town Planner, IWEO	7/1/2021	Projected 7/1/2021	Update Regulations.
5-2 Enforce LID/runoff reduction requirements for development and redevelopment projects	Ongoing/ In Progress	Enforce LID/ runoff reduction regulations through site plan review.	Development and redevelopment projects will include LID/ runoff reduction measures.	Town Planner, IWEO	7/1/2019	Projected 7/1/2020	
5-3 Identify retention and detention ponds in priority areas	Not started	Identify retention and detention ponds in priority areas.	Identify retention and detention ponds in priority areas	Planning & Zoning, IWEO, ZEO and DPW	7/1/2019	Projected 7/1/2019	
5-4 Implement long-term maintenance plan for stormwater basins and treatment structures	Ongoing/ In Progress	Implementing long-term maintenance of stormwater basins and treatment structures through scheduled maintenance based on template from UCONN's CT NEMO Program.	Inspect and maintain basins and structures in accordance with long-term plan.	Planning & Zoning, IWEO, ZEO and DPW	7/1/2019	Projected 7/1/2019	Only ponds owned by the Town are maintained by the DPW.

Table 5.1 Post-Construction Stormwater Management BMP (Continued)

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
5-5 DCIA mapping	In progress	Develop and analyze DCIA maps starting after 7/1/2019.	Update DCIA mapping.	Town Engineer	7/1/2020	Projected 7/1/2020	
5-6 Address post-construction issues in areas with pollutants of concern	Not started	Inspect construction areas in areas with pollutants of concern,	Enforce construction BMPs.	Town Engineer DPW	Not Specified	Projected 7/1/2020	

5.2 Post-Construction Stormwater Management Activities

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

Development and redevelopment projects will include LID/ runoff reduction measures.

Town consultant, Inland Wetlands, Planning & Zoning, Engineering Dept. and Public Works Dept. to identify priority areas and develop retrofit program.

Develop a Maintenance Plan for stormwater ponds and treatment structures by July 2019. The DPW or property owners will maintain highest priority retention ponds.

5.3 Post-Construction Stormwater Management Reporting Metrics

Table 5.2 Post-Construction Stormwater Management Metrics

Baseline (2012) Directly Connected Impervious Area (DCIA)	In progress
DCIA disconnected (redevelopment plus retrofits)	In progress
Retrofits completed	None (One identified; in progress)
DCIA disconnected	In progress
Estimated cost of retrofits	N/A
Detention or retention ponds identified	In progress

5.4 Method to Determine DCIA

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

The Town will choose from the following methods developed by CT NEMO:

- Method 1 involves assuming impervious Cover (IC) from the CT NEMO map is 100% connected; therefore, IC will equal DCIA.
- Method 2 involves using the equations on UConn NEMO's website to estimate DCIA based on the development density in each basin.
- Method 3 involves calculating DCIA through map analysis and field checking.

A combination of the above mentioned three methods will be utilized.

6 POLLUTION PREVENTION / GOOD HOUSEKEEPING

Under the General Permit Section 6(a)(6), the Town shall “implement an operations and maintenance program for permittee-owned or – operated MS4s that has a goal of preventing or reducing pollutant runoff and protecting water quality from all permittee-owned or – operated MS4s.” The following BMPs were selected by the town to address the Pollution Prevention/ Good Housekeeping minimum control measure of the General Permit (Section 6(a)(6)/ page 31):

6.1 BMP Summary

Table 6.1 Pollution Prevention/ Good Housekeeping BMP Measurable Goals and Implementation Dates & Status							
BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
6-1 Develop/Implement formal employee training program	Complete	Training was conducted in 2018	Implement annual training meetings.	Town Engineer	7/1/2017	Completed 7/1/2017	Industrial activity and MS4 pollution/ good housekeeping training was held on June 8, 2018 by Fuss & O'Neill.
6-2 Implement MS4 property and operations maintenance	Ongoing	Review current operation and maintenance procedures. Town parks have optimal fertilizer application, pet waste programs and scheduled trash collection. DPW has procedures for vehicle maintenance.	Update and implement MS4 operation and maintenance procedures.	Parks and Rec DPW	7/1/2018	Completed 7/1/2018	Employees are trained in spill response and kits are available where products are stored. Plastic bags are provided at parks for pet waste.
6-3 Implement coordination with interconnected MS4s	Not started	This has not been started.	Coordinate with interconnected MS4s.	Town Engineer DPW	Not specified	Not specified	In the future, the Town and DOT will coordinate operations and maintenance procedures.

Table 6.1 Pollution Prevention/ Good Housekeeping BMP (Continued)

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
6-4 Develop/Implement program to control other sources of pollutants to the MS4	Not started	Develop program to control other sources of pollutants. This has not been started yet.	Develop and implement program to control other sources of pollutants.	Town Engineer DPW	Not specified	Projected 7/1/2020	
6-5 Evaluate additional measures for discharges to impaired waters	In progress	Conduct preventative maintenance and fund retrofits to reduce pollutants to impaired water bodies. This has not been started yet.	Evaluate additional measures for discharges to impaired waters	Town Engineer DPW	Not specified	Projected 7/1/2020	Transfer Station is prioritized for retrofit project to reduce nutrient loads.
6-6 Track projects that disconnect DCIA	Ongoing	Research past projects for DCIA disconnections. Track projects that disconnect DCIA.	Report projects that disconnect DCIA in annual reports.	Planning & Zoning, Inland Wetlands, Town Engineer	7/1/2017	Projected 7/1/2019	
6-7 Implement infrastructure repair/ rehab program	Ongoing	Program for repairing and rehabilitating the MS4 infrastructure in a timely manner has not been started.	Implement infrastructure repair/ rehab program	DPW	7/1/2021	Projected 7/1/2021	Structures are repaired or replaced during roadway rehab or on an as-needed basis.
6-8 Develop/Implement plan to identify/prioritize retrofit projects	Not Started	Develop plan to identify/prioritize retrofit projects has not been started.	Report of identified/prioritized retrofit projects	Town Engineer DPW	7/1/2020	Projected 7/1/2020	
6-9 Implement retrofit projects to disconnect 2% of DCIA	Not Started	Track projects that disconnect DCIA, and include in annual report has not been started.	Implement retrofit projects.	Town Engineer DPW	7/1/2022	Projected 7/1/2022	
6-10 Develop/implement street sweeping program	Complete/ Ongoing	Street sweeping included over 92 miles of streets municipal parking lots.	Street sweeps are conducted annually.	DPW	7/1/2017	Completed 7/1/2017	

Table 6.1 Pollution Prevention/ Good Housekeeping BMP (Continued)

BMP	Status	Activities in current reporting period	Measurable Goal	Responsible Department or Person	Due	Date completed or projected completion date	Additional Details
6-11 Develop/implement catch basin cleaning program	Complete/ Ongoing	Continue Catch Basin Maintenance Program.	Catch basins are cleaned in accordance with the Program.	DPW	7/1/2020	Projected 7/1/2020	Catch basins are cleaned annually, but a program will be created to target priority catch basins and record cleanings.
6-12 Develop/implement snow management practices	Complete	Developed and implemented standard operating practices (SOP) for snow management policy	Implement standard snow management SOP policy..	DPW	7/1/2018	Completed 11/14/2018	Created Snow Removal and De-Icing Program.

6.2 Pollution Prevention/ Good Housekeeping Activities

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

Continue to conduct Street Sweeping Program, Catch Basin Cleaning Program and standard operating practices for snow management.

Develop list of projects to eliminate DCIA.

Continue following operation and maintenance procedures.

6.3 Pollution Prevention/ Good Housekeeping Reporting Metrics

Table 6.2 Metrics	
Employee training provided for key staff	Yes (06/2018)
Street sweeping	
Curb miles swept	92.5 miles
Volume (or mass) of material collected	187,000 lbs
Catch basin cleaning	
Total catch basins in priority areas	Unknown
Total catch basins in MS4	3,000
Catch basins inspected	750
Catch basins cleaned	716
Volume (or mass) of material removed from all catch basins	121,000 lbs
Volume removed from catch basins to impaired waters (if known)	Unknown
Snow management	
Type(s) of deicing material used	Coarse sand, Coarse salt, and Treated salt
Total amount of each deicing material applied	1800 tons
Type(s) of deicing equipment used	Dump Truck – 4 season body, Salt Spreaders Plows
Lane-miles treated	1,819 miles
Snow disposal location	N/A
Staff training provided on application methods & equipment	10/2018
Municipal turf management program actions (for permittee properties in basins with N/P impairments)	
Reduction in application of fertilizers (since start of permit)	Unknown
Reduction in turf area (since start of permit)	Unknown
Lands with high potential to contribute bacteria (dog parks, parks with open water, & sites with failing septic systems)	Undetermined
Cost of mitigation actions/retrofits	N/A

6.4 Catch Basin Cleaning Program

Briefly describe the method used to optimize your catch basin inspection and cleaning schedule.

This will consist of inspecting and if cleaning catch basins on a regularly scheduled basis. The Town will use the following criteria for inspecting and cleaning their catch basins:

- The Town, at a minimum, will annually evaluate and, if necessary, clean catch basins and other stormwater structures that accumulate sediment. Typically, one quarter of the catch basins in Town are cleaned each year to prevent having to clean subsurface storm sewer pipe segments between structures. The Town staggers the catch basin cleaning, so that all the catch basins are cleaned every four years.
- Priority areas will be established to maximize the effectiveness of the Town's available resources for the routine inspections. These priority areas will be developed using the town's knowledge of problem areas, where sediment/debris has been known to accumulate in higher quantities. Geographical location, climate, traffic patterns and vertical sag locations may also be factors in determining priority areas.

The Town will evaluate roads in in the immediate vicinity of watercourse and waterbodies, and the Town will implement additional catch basin cleanings as needed.

7 MONITORING RESULTS

MS4s that discharge to impaired streams shall be monitored. Screening of outfalls that discharge to impaired waters shall begin in 2019. The Town plans to sample 8 outfalls in 2019. The outfalls were not monitored during this reporting period.

According to the 2016 Integrated Water Quality Report, there are two impaired ponds and four impaired estuaries. Linsley Pond has a total maximum daily load (TMDL) for Phosphorus. The Branford Supply Pond does not have a TMDL. Stormwater outfalls do not discharge to the ponds; therefore, stormwater monitoring is not required for the impaired ponds.

The four estuaries listed in Table 7.1 below have TMDLs for Bacteria. The impairments to these estuaries are described in “Estuary 8: Branford/ East Haven” Report. The outfalls directly discharging to these estuaries will be monitored.

Table 7.1 Impaired Waters			
Waterbody	Waterbody ID	Impaired Designated Use	Pollutant of Concern
Linsley Pond	CT5111-09-1-L2_01	Habitat for Fish, Other Aquatic Life and Wildlife, Recreation	Nitrogen and Phosphorus
Branford Supply Pond	CT5111-09-2-L3_01	Habitat for Fish, Other Aquatic Life and Wildlife	Other Pollutant of Concern (Monitor Turbidity)
Inner Branford Harbor	CT-C1 009-SB	Shellfish Harvest	Bacteria
Stony Creek (East)	CT-C2_011	Shellfish Harvest	Bacteria
Stony Creek (West)	CT-C2_012	Shellfish Harvest	Bacteria
Indian Neck	CT-C2_013	Shellfish Harvest	Bacteria

7.1 Impaired Waters Investigation and Monitoring Program

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 ☒

The Town of Branford will be screening the outfalls that discharge to impaired waters starting in 2019. The outfalls that discharge directly to the impaired estuaries will be screened starting with the Inner Branford Harbor. See Figure 2 in Appendix A for a map of the outfall locations. The Integrated Water Quality Report is published every two years. The monitoring schedule will be updated if impaired waters change.

7.2 Screening Data for Outfalls to Impaired Waterbodies

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.

Table 7.2 Stormwater Outfall Monitoring Data							
Outfall ID	Sample date	Parameter (Nitrogen, Phosphorus, Bacteria, or Other pollutant of concern)	E.coli (MPN/100 mls) Limit 410*	Enterocci Bacteria (MPN/100 mls) Limit 500*	T. Coliform (MPN/100 mls) Limit 500*	Name of Laboratory (if used)	Follow-up required?

*The 2017 General Permit states the maximum allowed levels of pollutants of concern and requires follow-up investigations when parameters are over the maximum allowed.

8 ADDITIONAL IDDE PROGRAM DATA

8.1 Assessment and Priority Ranking of Catchments Data

Provide a list of all catchments with ranking results (DEEP basins may be used instead of manual catchment delineations).

Table 8.1 Catchment Rankings		
1. Catchment ID (DEEP Basin ID)	2. Category	3. Rank

8.2 Outfall and Interconnection Screening and Sampling Data

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

Table 8.2 Dry Weather Screening and Sampling Data from Outfalls and Interconnections

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

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

Table 8.3 Wet Weather Sample and Inspection Data

Outfall / Interconnection ID	Sample date	Ammonia	Chlorine	Conductivity	Salinity	E. coli or Enterococcus	Surfactants	Water Temp	Pollutant of concern

8.3 Catchment Investigation Data

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.

Table 8.4 System Vulnerability Factor Summary

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).

Table 8.5 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

Table 8.6 Wet Weather Investigation Outfall Sampling Data

Outfall ID	Sample date	Ammonia	Chlorine	Surfactants

Table 8.7 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

9 CERTIFICATION AND SIGNATURE

9.1 CERTIFICATION REQUIREMENTS

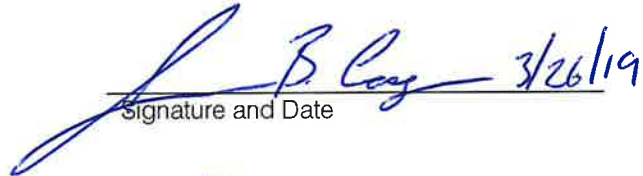
This plan and any document, including but not limited to any notice, information or report, which is submitted to the Commissioner of the CTDEEP under the General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems shall be signed by the chief elected official or principal executive officer, and by the individual or individuals responsible for preparing such document as defined in Section 22a-430-3(b) (2) of the Regulations of Connecticut State Agencies.

9.2 PLAN CERTIFICATION AND SIGNATURE

"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

James B. Cosgrove
First Selectman
Town of Branford, Connecticut


Signature and Date 3/26/19

Document Prepared by

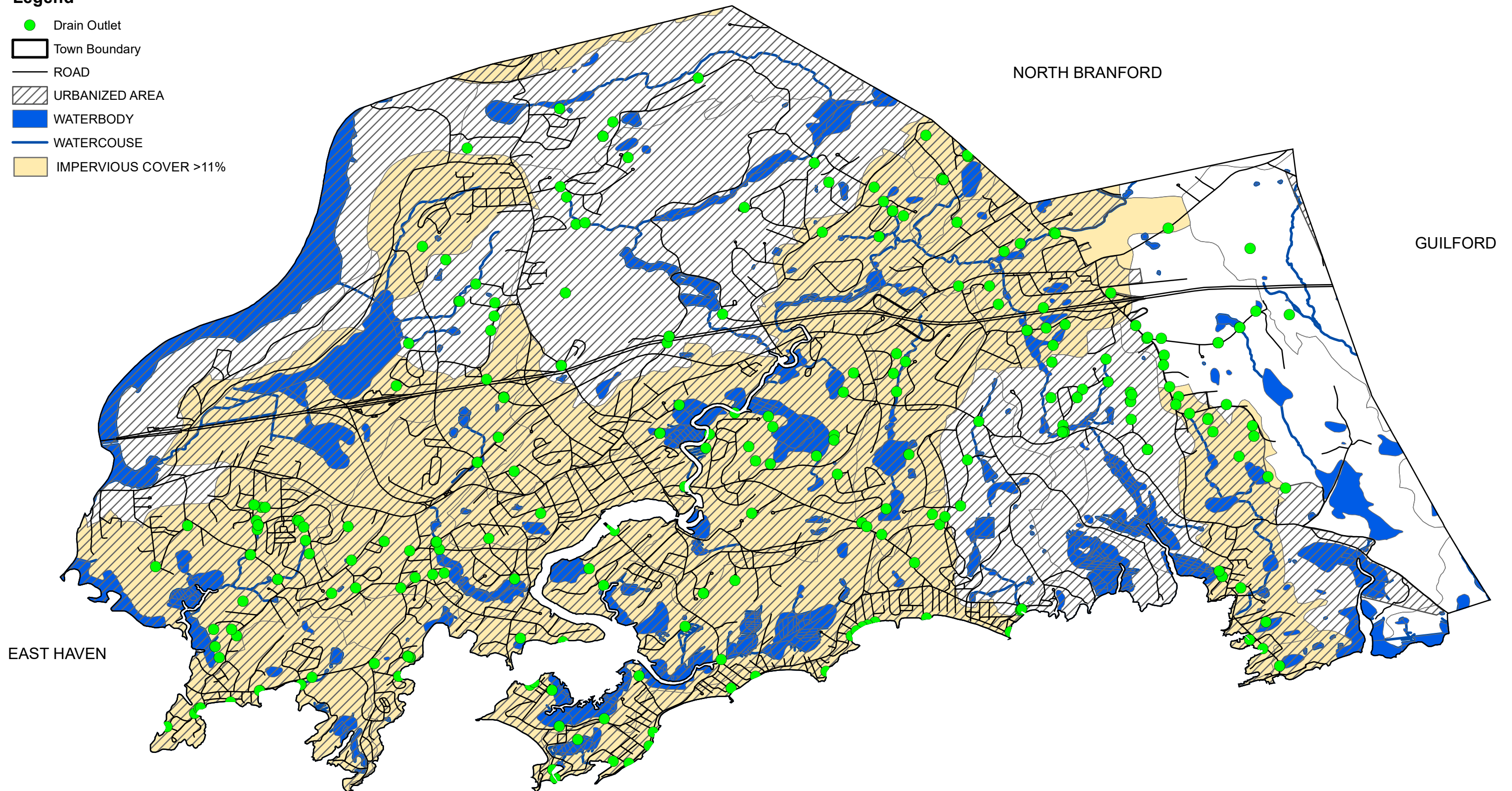
Raju Vasamsetti, P.E.
Project Manager
Weston & Sampson Engineers, Inc.


Signature and Date 03/29/19

APPENDIX A
OUTFALL MAPS

Legend

- Drain Outlet
- ▭ Town Boundary
- ROAD
- ▨ URBANIZED AREA
- WATERBODY
- WATERCOUSE
- IMPERVIOUS COVER >11%



0 1,250 2,500 5,000 7,500 10,000 Feet

SOURCE: CTDEEP GIS DATA 2014

FIGURE 1
URBANIZED AREA AND IMPERVIOUS AREAS

ANNUAL REPORT 2018
TOWN OF BRANFORD

Weston & Sampson

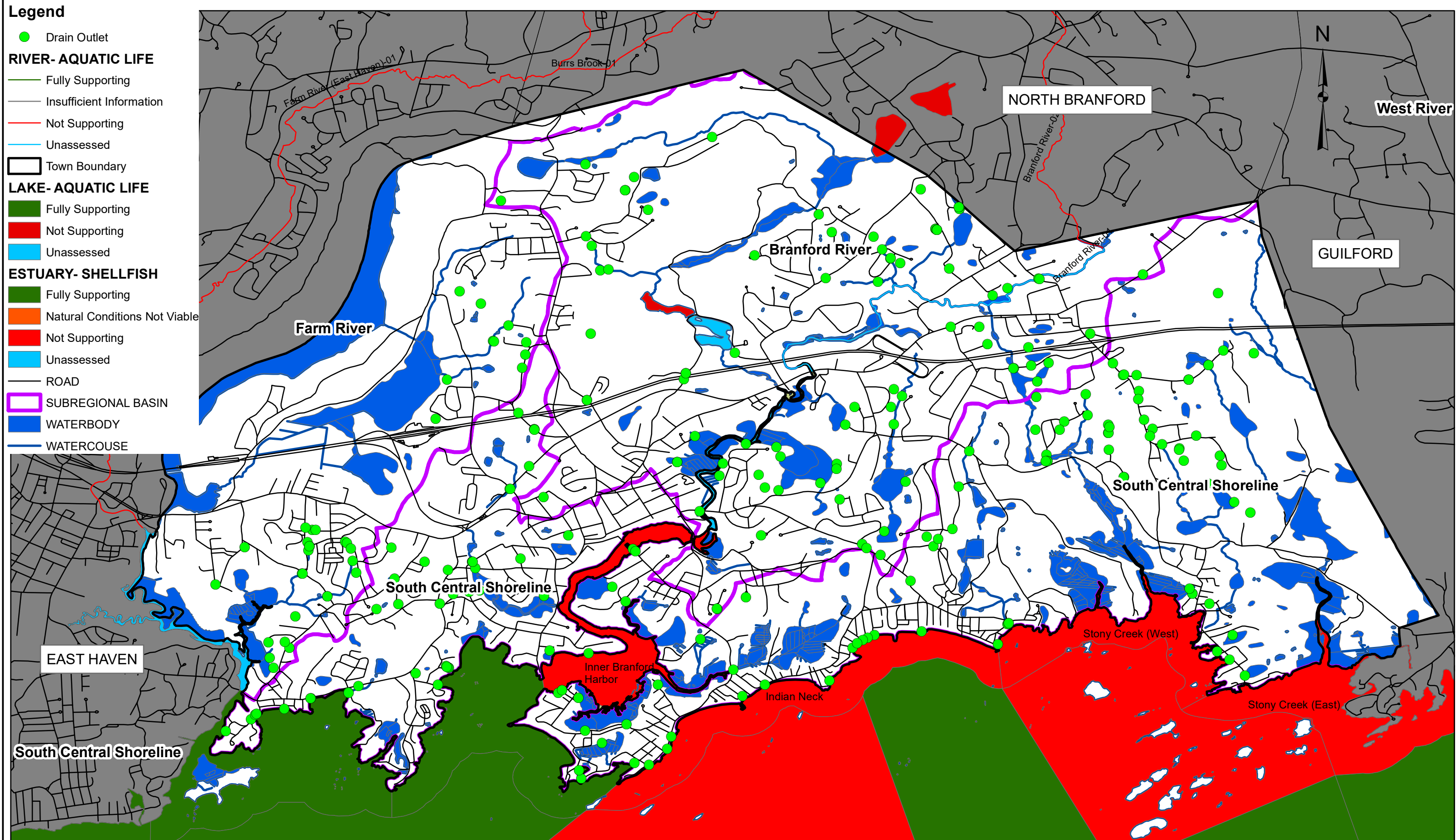


FIGURE 2
WATER QUALITY AND OUTFALLS