STORMWATER MANAGEMENT PLAN

Stoughton, MA

September 2023

ENVIRONMENTAL PARTNERS

— An Apex Company —

Stormwater Management Plan (SWMP) Revision History

MS4 Materials that supplement the 2019 SWMP Document

Revision #	Date	Comments
0	6/2019	SWMP Published for Town Comment
1	9/2020	IDDE Plan and SWPPPs are included as Appendix K
2	9/2021	Year 3 Updates
3	9/2022	Year 4 Updates
4	9/2023	Year 5 Updates

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name Mark J. Tisdale

Signature

Date 9/20/23

ENVIRONMENTAL PARTNERS

TABLE OF CONTENTS

LIST OF TABLES III

LIST OF FIGURES IV

LIST OF APPENDICIES V

SECTION 1 BACKGROUND 1

SECTION 1.1 STORMWATER REGULATION 1

SECTION 1.2 PERMIT PROGRAM BACKGROUND 1

SECTION 1.3 STORMWATER MANAGEMENT PLAN (SWMP) 1

SECTION 1.4 TOWN SPECIFIC MS4 BACKGROUND 2

SECTION 2 SWMP COMPONENTS 3

SECTION 2.1 PARTIES INVOLVED IN IMPLEMENTATION 3

SECTION 2.2 DOCUMENTATION REGARDING ENDANGERED SPECIES 3

SECTION 2.3 DOCUMENTATION REGARDING HISTORIC PROPERTIES 4

SECTION 2.4 DOCUMENTATION REGARDING DISCHARGES 4

SECTION 2.5 SANITARY SEWER OVERFLOW (SSO) INVENTORY 4

SECTION 2.6 IDDE PROGRAM AND BYLAWS 5

SECTION 2.7 SEDIMENT AND EROSION CONTROL PROCEDURES 5

SECTION 2.8 PUBLIC DRINKING WATER SUPPLY SOURCES PROTECTION 5

SECTION 2.9 ACTIVITIES TO MONITOR DISCHARGES 6

SECTION 2.10 ANNUAL PROGRAM EVALUATION 6

SECTION 3 MINIMUM CONTROL MEASURES 7

SECTION 3.1 PUBLIC EDUCATION AND OUTREACH 7

Section 3.1.1 Background 7

Section 3.1.2 Best Management Practices 8

SECTION 3.2 PUBLIC INVOLVEMENT AND PARTICIPATION 9

Section 3.2.1 Background 9

Section 3.2.2 Best Management Practices 9

SECTION 3.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PROGRAM 10

Section 3.3.1 Background 12

Section 3.3.2 Best Management Practices *12*
SECTION 3.4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL 15
Section 3.4.1 Background *15*
Section 3.4.2 Best Management Practices *15*
SECTION 3.5 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT 16
Section 3.5.1 Background *16*
Section 3.5.2 Best Management Practices *17*
SECTION 3.6 GOOD HOUSEKEEPING AND POLLUTION PREVENTION FOR PERMITTEE OWNED OPERATIONS 18
Section 3.6.1 Background *18*
Section 3.6.2 Best Management Practices *19*
SECTION 4 WATER QUALITY BASED REQUIREMENTS 21
SECTION 4.1 BACKGROUND 21
Section 4.1.1 Update to the Town's Phosphorus Impairment *22*
SECTION 4.2 PERMIT REQUIREMENTS 23
Section 4.2.1 Public Education and Outreach *23*
Section 4.2.2 Stormwater Management in New Development and Redevelopment *23*
Section 4.2.3 Good Housekeeping and Pollution Prevention *24*
Section 4.2.4 Illicit Discharge *24*
Section 4.2.5 Additional Requirements (Nitrogen) *24*

LIST OF TABLES

Table 2-1: List of Parties Responsible for SWMP Implementation 3
Table 3-1: Impaired Waters, TMDLs and Impairments 10

LIST OF FIGURES

Figure 1 - System Locus
Figure 2 - MS4 Urbanized Areas
Figure 3 - Stormwater System Map
Figure 4 - Town Watersheds

LIST OF APPENDICIES

APPENDIX A - MA MS4 Hyperlinks and References
APPENDIX B - Notice of Intent
APPENDIX C - Permit Schedule
APPENDIX D - Endangered Species and Critical Habitats Protection Documents
APPENDIX E - MA MS4 General Permit Appendix D - Historic Properties Documents
APPENDIX F - New or Increased Discharges Tracking Log
APPENDIX G - SSO Inventory
APPENDIX H - Current Stormwater Bylaws
APPENDIX I - Annual Reports
APPENDIX J - Minimum Control Measures BMPs
APPENDIX K - Operations and Maintenance (O&M) Plan
APPENDIX L - Illicit Discharge Detection and Elimination (IDDE) Plan
APPENDIX M - Stormwater Pollution Prevention Plans (SWPPPs)
APPENDIX N - Municipal Facility Audit Report
APPENDIX O - BMP Observation Reports
APPENDIX P - Year 4 MCM-5 Memos

SECTION 1 BACKGROUND

SECTION 1.1 STORMWATER REGULATION

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in an effort by the Environmental Protection Agency (EPA) to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II Rule expands the Phase I program by requiring additional programs and practices to control polluted stormwater runoff from small Municipal Separate Storm Sewer Systems (MS4s) in urbanized areas and construction sites, through the use of National Pollution Discharge Elimination System (NPDES) permits. Phase II is intended to further reduce adverse impacts to water quality and aquatic habitat by instituting the use of controls on the unregulated sources of stormwater discharges that have the greatest likelihood of causing continued environmental degradation. Under the Phase II rule, all MS4s with stormwater discharges from U.S. Census-designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

SECTION 1.2 PERMIT PROGRAM BACKGROUND

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 small MS4 Permit) consistent with the Phase II Rule. The 2003 small MS4 Permit covered "traditional" (e.g., cities and towns) and "non-traditional" (e.g., Federal and state agencies) MS4 operators located in the states of Massachusetts and New Hampshire. This permit expired on May 1, 2008, but remained in effect until operators were authorized under the 2016 small MS4 General Permit, which became effective on July 1, 2018.

SECTION 1.3 STORMWATER MANAGEMENT PLAN (SWMP)

The SWMP describes and details the activities and measures that will be implemented to meet the terms and conditions of the 2016 MS4 Permit. The SWMP accurately describes the permittees plans and activities. The document should be updated and/or modified during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions. Additionally, MS4 reports (Operations and Maintenance Plan, Illicit Discharge Detection and Elimination Plan, etc.), annual reports, and inspection reports should be attached to the SWMP as appendices. Thus, the SWMP should act as a living document that records the permittee’s planned and completed progress toward meeting the MS4 Permit requirements.

The main elements, or minimum control measures (MCMs) of the stormwater management program are (1) a public education program in order to affect public behavior causing stormwater pollution, (2) an opportunity for the public to participate and provide comments on the stormwater program (3) a program to effectively find and eliminate illicit discharges within the MS4 (4) a program to effectively control construction site stormwater discharges to the MS4 (5) a program to

ensure that stormwater from development projects entering the MS4 is adequately controlled by the construction of stormwater controls, and (6) a good housekeeping program to ensure that stormwater pollution sources on municipal properties and from municipal operations are minimized. The hyperlinks provided in **Appendix A** offer additional information and supporting documents related to the MS4 Permit and the minimum control measures.

SECTION 1.4 TOWN SPECIFIC MS4 BACKGROUND

The Town must give special consideration to and meet eligibility requirements for their discharges to be able to apply for coverage under the General Permit. Eligibility will be determined based on three categories: Endangered Species Act, National Historic Preservation Act, and Water Quality Impaired Waters. The Town must establish that discharges from its storm drain system do not adversely impact endangered species, critical habitats, and historic properties in order to be covered by the General Permit. Furthermore, the Town must identify all receiving waters that have been classified as Water Quality Impaired Waters by the Massachusetts Department of Environmental Protection. The Town of Stoughton and its surrounding water bodies are shown on **Figure 1: System Locus**. The Notice of Intent (NOI) for coverage under the Small MS4 General Permit was submitted to EPA and MassDEP on September 27, 2018. A copy of the NOI is provided in **Appendix B**.

SECTION 2 SWMP COMPONENTS

SECTION 2.1 PARTIES INVOLVED IN IMPLEMENTATION

The Town has not yet created/staffed a stormwater management position. Alternatively, the Town has established a Stormwater Committee. The members of the Stoughton stormwater committee are listed in the table below. This committee has prioritized detailed goals and concerns regarding implementing of a stormwater program.

Table 2-1: List of Parties Responsible for SWMP Implementation

Name	Title	Department
Marc J. Tisdelle	Town Engineer	Engineering Department
Laurence W. Langlois	GIS Manager / Stormwater Coordinator	Engineering Department
Paul Giffune	Director of Public Works	Public Works Department
Craig A. Horsfall	Assistant Town Engineer	Engineering Department
William D. Roth	Town Planner (Interim)	Planning Board
Jack Erickson	Building Commissioner	Building Department
James B. Conlon	Environmental Affairs Officer	Engineering Department
Lawrence Perry	Town Sanitarian	Board of Health
Paul Giffune	Town Facilities Manager	Building Department
Joyce Husseini	Schools Facilities Manager	School Committee

A schedule has been developed in effort to comply with the NPDES Permit requirement and timelines as currently established. The schedule is attached as **Appendix C**.

SECTION 2.2 DOCUMENTATION REGARDING ENDANGERED SPECIES

In order to comply with part 1.9.1 of the NPDES Permit, the Town has attached documentation in Appendix D supporting Stoughton's eligibility determination of Criterion C with regard to federal Endangered and Threatened Species and Critical Habitat Protection. Criterion C states that, "determination is made by EPA, or by the applicant and affirmed by EPA, that the stormwater discharges and discharge related activities will have "no affect" on any federally threatened or endangered listed species or designated critical habitat under the jurisdiction of the USFWS." In this case, USFWS provided a letter in place of a concurrence letter for informal consultation.

The attachments in **Appendix D** include the aforementioned letter, as well as the results of the Information for Planning and Consultation (IPaC) environmental review process. Using the IPaC environmental review process, one endangered species has been identified within Stoughton's boundaries: the Northern Long-Eared Bat. This species does not have critical habitats designated within the Town, and the MS4 Permit will not adversely affect the listed species within the MS4 area.

SECTION 2.3 DOCUMENTATION REGARDING HISTORIC PROPERTIES

The Town has attached documentation in Appendix E supporting their eligibility determination regarding Historic Properties, in compliance with part 1.9.2 of the Permit. This document, Appendix D of the Massachusetts General MS4 Permit, includes information supporting Stoughton's determination as Criterion A, stating that the discharges do not have the potential to cause effects on historic properties.

Historic site considerations will be evaluated further as part of the design/permitting of new/retrofit BMPs proposed for implementation as part of MS4 compliance. Regarding the National Historic Preservation Act, under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects," in accordance with 36 CFR 800.3(a)(1).

SECTION 2.4 DOCUMENTATION REGARDING DISCHARGES

Attached in **Appendix F** is the documentation for tracking any new or increased discharges granted by MassDEP in compliance with part 2.1.2 of the Permit. Increased discharges refer to increased pollutant loading(s) through the MS4 to waters of the US or to impaired waters listed in categories 5 or 4b on the Massachusetts Integrated Report of waters, pursuant to the Clean Water Act. The Permit states that "any authorization of an increased discharge by MassDEP shall be incorporated into the permittee's SWMP."

At this time, the Town of Stoughton has no new and/or increased discharges. Stoughton will document any new and/or increased discharges, including any newly located outfall beyond what was listed in the NOI, any new constructed outfall, or any new development increasing flow to existing MS4 outfall structures. These discharges will be documented on the form provided in **Appendix F** and will include project specific information regarding best management practices implemented for those discharges. A sample discharges form is provided in **Appendix F**.

SECTION 2.5 SANITARY SEWER OVERFLOW (SSO) INVENTORY

In the event of an overflow or bypass, a notification must be reported within 24 hours by phone to MassDEP, EPA, and other relevant parties. The verbal notification should be followed up with a written report following MassDEP's Sanitary Sewer Overflow (SSO)/Bypass notification form within five calendar days of the time you become aware of the overflow, bypass, or backup. Upon

notification of any SSO or septic overflow, the Stoughton Board of Health will take these appropriate measures to comply with Permit requirements.

The Town will maintain an inventory of all known locations where SSOs have discharged to the MS4, if any are found. This inventory shall include SSOs resulting from inadequate conveyance capacities, or where interconnectivity of the storm and sanitary sewer infrastructure allows for connection of flow between the systems. A SSO inventory form is provided in **Appendix G** and is updated annually. The inventory includes the following information:

1. Location (approximate street crossing/address and receiving water, if any);
2. A clear statement of whether the discharge entered a surface water directly or entered the MS4;
3. Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge);
4. Estimated volume(s) of the occurrence;
5. Description of the occurrence indicating known or suspected cause(s);
6. Mitigation and corrective measures completed with dates implemented; and
7. Mitigation and corrective measures planned with implementation schedules.

SECTION 2.6 IDDE PROGRAM AND BYLAWS

The Town's IDDE plan was developed during the first year of the new MS4 Permit (June 2019). The IDDE program is detailed in section 3.3 of Minimum Control Measures. The Town of Stoughton has adopted Chapter 159: Stormwater Management Bylaw (adopted at 2021 Annual Town Meeting) and Rules and Regulations for Stormwater Management (approved by Select Board on October 19, 2021). A copy of the Stormwater Management Bylaw and Rules and Regulations for Stormwater Management is provided in **Appendix H**.

SECTION 2.7 SEDIMENT AND EROSION CONTROL PROCEDURES

Written procedures for the Town's site inspections and enforcement of sediment and erosion control procedures in accordance with part 2.3.5 of the MS4 Permit, Construction Site Stormwater Runoff Control, are detailed in the Sections 3.4 and 3.5, Minimum Control Measures. This information includes the party responsible for site inspections and implementation of procedures.

SECTION 2.8 PUBLIC DRINKING WATER SUPPLY SOURCES PROTECTION

The Town has developed practices in an effort to avoid or minimize impacts to surface public drinking water supply sources. These efforts are detailed in **Minimum Control Measures section 3.6**,

Good Housekeeping and Pollution Prevention. The Town plans to prioritize the enforcement of the existing stormwater pollution prevention plans.

SECTION 2.9 ACTIVITIES TO MONITOR DISCHARGES

The Town identified discharges within public drinking water supply source areas and gave priority to outfall inspections and screening required of the Minimum Control Measures in section 3.0.

SECTION 2.10 ANNUAL PROGRAM EVALUATION

To comply with part 4.1 of the MS4 Permit, the Town annually self-evaluates compliance with the terms and conditions of the MS4 Permit and submits each self-evaluation as part of the Fiscal Year annual report. The NPDES Phase II Small MS4 General Permit Annual Reports for Fiscal Year 2018 through the most recent Fiscal Year are attached in Appendix I.

SECTION 3 MINIMUM CONTROL MEASURES

In effort to reduce pollutants and comply with part 2.3 of the MS4 Permit, the Town focuses on the following six minimum control measures detailed in this section. These sections describe the Town's practices to comply with each control measure, the responsible person(s) or party of each practice, and the goal(s) for each BMP of each control measure. The BMPs for each of the six minimum control measures are outlined in the forms provided in **Appendix J.**

SECTION 3.1 PUBLIC EDUCATION AND OUTREACH

The Town implemented an education program that includes educational goals based on stormwater issues of significance within the MS4 area. The ultimate objective of a public education program, MS4 Permit part 2.3.2, is to increase knowledge and change behavior of the public so that the pollutants in stormwater are reduced.

The Town implemented a public education program as required by the 2003 permit and continued that program with the necessary adjustments to meet the additional requirements of the 2016 MS4 Permit.

The program includes the education of the following four audiences: (1) residents, (2) businesses, institutions (churches, hospitals), and commercial facilities, (3) developers (construction), and (4) industrial facilities.

Section 3.1.1 Background

The Town has made efforts to incorporate stormwater information into classroom education in Middle and High Schools through presentations by the Engineering Department. During these presentations and seminars, materials are distributed to raise awareness of stormwater issues and maintenance practices. The Engineering Department has also developed a stormwater video called "After the Storm" which has aired on local access television. The Public Works Department works to stencil catch basins and check and re-paint them as necessary while inspecting overall conditions of the catch basins in town. Signs and posters have also been displayed with outreach material written specifically for different types of audiences, including "No-Dumping" signs in all major watershed areas. On Earth Day, the Conservation Commission gives educational presentations to generate public awareness for preventing non-point source pollution in the watershed. The Conservation Commission also works to educate the public on the stormwater benefits of rain barrels and compost generators for storing roof runoff and reducing the volume of solid waste.

Stoughton continues to participate in the Neponset Stormwater Partnership, though which the Town has been able to provide design and survey for stormwater improvements. The Public Works and Engineering Departments also attend multiple stormwater presentations on an annual basis to educate the staff on the MS4 permit requirements. The Town Engineering Department also worked

to create an aquifer protection map and educate staff on low impact design of new developments. The Town will present the stormwater bylaw for public review at a future Town Meeting to make revisions and updates for the new permit requirements.

Section 3.1.2 Best Management Practices

I. Distribution of a minimum of two (2) educational messages over the permit term to the required audiences within the permit term (5 years), as listed below.
    a. Residents
        i. Maintain stormwater website with hyperlinks to stormwater related bylaws.
            1. https://www.stoughton.org/506/Stormwater-Information
        ii. Keep outreach materials at Library and Town Hall and publish them on the stormwater website, utilizing materials from the DEP, EPA, and relevant stormwater collaborative.
        iii. Consider creating a Town Resident Notification System for stormwater alerts.
        iv. Distribute New Resident packets to residents within Wetland Protection Areas.
        v. Distribute pet waste control information to residents when they (re)apply for a pet license.
        vi. Install educational boards/signs in parks, public open space, near wetlands, etc.
        vii. Continue to perform presentations and provide school materials to Stoughton High School and O'Donnell Middle School.
    b. Businesses, Institutions, and Commercial Facilities
        i. Include stormwater information in permit materials and make available on stormwater website and at Town Hall.
        ii. Make information available on stormwater website and at Town Hall.
        iii. Distribute information to septic maintenance contractors.
    c. Developers (Construction)
        i. Include stormwater information materials as appendix to building and site plan review permit applications.
        ii. Make information available on stormwater website and at Town Hall.
        iii. Distribute information to septic maintenance contractors.
    d. Industrial Facilities
        i. Distribute stormwater information to industrial groups based on zoning and property use.
        ii. Make information available on stormwater website and at Town Hall.

SECTION 3.2 PUBLIC INVOLVEMENT AND PARTICIPATION

The objective of the public involvement and participation control measure, permit part 2.3.3., is for the Town to provide the public with opportunities to engage in activities that promote good stormwater practices. The public has also been given the chance to review the Stormwater Management Plan (SWMP) and its implementation.

Section 3.2.1 Background

Stoughton has created a Stormwater Committee to identify and develop plans to mitigate stormwater problem areas in town. The Town holds a household hazardous waste day each year, and provides opportunities for residents to dispose of unwanted prescriptions to protect the environment. The Ames Pond Citizens Committee and Harris Pond Citizen Committee were formed to increase awareness of the nutrient problems in these ponds and mitigate these nutrient pollutions. The Board of Health (BOH) has made efforts to educate the public on preventing groundwater contamination by maintenance of on-site sewage disposal. In addition, the BOH has developed programs for removing mercury from the municipal solid waste stream and implementing a program to replace failed septic systems.

The Neponset Stormwater Partnership as well as the Taunton River Watershed both host various events throughout the year for the benefit of the residents.

Section 3.2.2 Best Management Practices

I. Public Review
    a. Stormwater Management Plan Review (SWMP)
        i. Make SWMP available at least annually for public review.
        ii. Create and use Stormwater Website to publish SWMP and annual reports. Website should contain a space for electronically soliciting public comments (e.g. stormwater specific e-mail, message board, etc.)
            1. Stormwater website is located at the following link: https://www.stoughton.org/506/Stormwater-Information
            2. Make physical copy available at Town Hall, Library, Public Works Department, etc.

II. Public Participation
    a. Participate in local stormwater groups/associations (e.g. Neponset River Watershed Association, Harris Pond Citizen Committee, Ames Pond Citizens Committee).
    b. Maintain/Acquire membership with local stormwater/water quality committees (e.g. Stormwater Advisory Committee).
    c. Continue to host hazardous waste collection days.
    d. Continue to hold Town clean-up days with various groups.
    e. Stormwater Hotline

i. Establish a stormwater hotline and publish contact information on stormwater website to solicit complaints, questions, etc.

SECTION 3.3 ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PROGRAM

The Town has implemented an IDDE program, per MS4 Permit part 2.3.4, in order to find and eliminate non-stormwater discharge sources. Procedures have been implemented to fix any prevalent issues in the Town's storm sewer system. There are 159 outfall structures that discharge to the Town of Stoughton's MS4 area. The Town's inventory of outfall structures is shown in **Figure 3: Stormwater System Map**. Below, **Table 3-1** lists the Town's impaired waters, the impairments per water body, and any associated final Total Maximum Daily Load (TMDL) report numbers. Impairments will be discussed further in **Section 4**.

Table 3-1: Impaired Waters, TMDLs and Impairments

Water Body Name	Segment ID	Category	Impairment(s)	Associated Approved TMDL
Farrington Pond	MA73040	4c	• Non-Native Aquatic Plants	
Glen Echo Pond	MA73022	4c	• Non-Native Aquatic Plants	
Pinewood Pond	MA73039	4c	• Non-Native Aquatic Plants • Aquatic Plants (Macrophytes)	
Town Pond	MA73056	4c	• Fanwort	
Woods Pond	MA73055	4c	• Non-Native Aquatic Plants	
Beaver Meadow Brook	MA73-20	5	• Oxygen, Dissolved • Escherichia coli (E. coli)	2592
Unnamed Tributary	MA73-32	5	• Benthic Macroinvertebrates • Escherichia coli (E. coli)	54860
Ames Long Pond	MA62001	5	• Non-Native Aquatic Plants • Aquatic Plants (Macrophytes) • Turbidity • Fanwort • Nutrient/Eutrophication Biological Indicators	
Steep Hill Brook	MA73-18	5	• Escherichia coli (E. coli)	
Water Body Name	Segment ID	Category	Impairment(s)	Associated Approved TMDL
Farrington Pond	MA73040	4c	• Non-Native Aquatic Plants	
Glen Echo Pond	MA73022	4c	• Non-Native Aquatic Plants	
Pinewood Pond	MA73039	4c	• Non-Native Aquatic Plants	

			• Aquatic Plants (Macrophytes)	
Town Pond	MA73056	4c	• Fanwort	
Woods Pond	MA73055	4c	• Non-Native Aquatic Plants	
Beaver Meadow Brook	MA73-20	5	• Oxygen, Dissolved • Escherichia coli (E. coli)	 2592
Unnamed Tributary	MA73-32	5	• Benthic Macroinvertebrates • Escherichia coli (E. coli)	 54860
Ames Long Pond	MA62001	5	• Non-Native Aquatic Plants • Aquatic Plants (Macrophytes) • Turbidity • Fanwort • Nutrient/Eutrophication Biological Indicators	
Steep Hill Brook	MA73-18	5	• Escherichia coli (E. coli)	

Category 4c Waters – impaired water bodies where the impairment is not caused by a pollutant. No TMDL required.
Category 5 Waters – impaired water bodies that require a TMDL.
"Approved TMDLs" are those that have been approved by EPA as of the date of issuance of the Massachusetts 2018/2020 List of Integrated Waters (February 2022).

Section 3.3.1 Background

The Town has made extensive efforts towards illicit discharge detection and elimination. Phase I stormwater mapping of existing drain facilities in Town has been completed, along with inspections on drainage structures and verification of connectivity. GIS software for this stormwater mapping data has been developed and maintained by the Town's GIS Administrator. This system has streamlined the DPW's work for closed circuit TV (CCTV) inspections of areas with suspect water quality. The GIS inspection data has also provided information on outfall dry weather flow, which was important in developing the outfall sampling program. All MS4 outfalls have been identified.

An IDDE bylaw for field inspections of utility tie-ins were developed and approved, and continues to be enforced by the Engineering Department, Board of Health, and Public Works Department. The Board of Health has made ongoing efforts to eliminate illicit discharges including the enforcement of Public and Semi-Public swimming pool back wash discharge regulations, enforcement of the commercial and industrial hazardous waste floor drain regulations, and enforcement of the hazardous waste groundwater protection bylaw. There are several stormwater improvement design projects in progress, including the Park Street sewer extension, DPW facility drainage improvements, and curb and berm installation on Canton Street. The DPW also performs stormwater infrastructure replacements or repairs as needed. In 2017 – 2018, the Town continued with the Neponset Stormwater Partnership and provided in-house survey and design as part of the awarded 319 Stormwater Grant through the Neponset River Valley Association for stormwater improvements at Gibbons Elementary School. Additionally, the Town was awarded a DEP Stormwater Grant for 30% Stormwater Improvement Design Plans for three sites in Stoughton (Dawes School, Hansen School, and Central/West Street intersection).

A hydraulic study of the sanitary sewer system and inspections of land that is subject to flooding has been in progress by the Engineering Department, and will continue to be an ongoing effort. IDDE bylaw revisions were presented and approved at the 2021 Town Meeting to meet the requirements of the new permit.

Section 3.3.2 Best Management Practices

I. Legal Authority
    a. The IDDE program shall include adequate legal authority to prohibit illicit discharges; investigate suspected illicit discharges; eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system; and implement appropriate enforcement procedures and actions. Adequate legal authority consists of a currently effective ordinance, by-law, or other regulatory mechanism. This ordinance, by-law, or other regulatory mechanism was a requirement of the MS4-2003 permit and was required to be effective by May 1, 2008. The Town updated the Chapter 159: Stormwater Management Bylaw in 2021.
II. SSO Inventory

a. Develop SSO Inventory Database within one year of effective permit date that logs historical SSOs that have occurred in the last 5 years, as discussed in further detail in Section 2.5. **The inventory has been developed and is updated annually**.
    i. Coordinate with Public Works Department for tracking of any future septic or SSOs.

III. Storm Sewer System Map
    a. Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit. **Year 2 (Phase I) mapping updates are complete.**
        i. Make an electronic and physical copy of the map available to the public via the stormwater website and Town Hall.
        ii. Map/verify 10% of system per year during permit years 1-10.
            1. Phase I will be focused on during Years 1 and 2, while Phase II will be focused on during Years 3 through 10.
        iii. Integrate system map updates with planned utility expansion projects;
        iv. Cross reference drainage information to ensure mapping is as accurate as possible.
        v. Map/verify country drainage (e.g. scuppers), in addition to outfall pipes.

IV. Written IDDE Program Development
    a. Develop and complete written IDDE program within 1 year of effective permit date. **The IDDE program and permit attachments are complete. The most updated IDDE Plan is attached to this document as Appendix L and is available within the Town Hall at 10 Pearl Street, Stoughton, MA 02072**.
        i. The written plan includes but is not limited to the following:
            1. Outline of responsibilities,
            2. Storm sewer map with locations of know outfalls, including information on relevant connectivity data gaps,
            3. Systematic procedure/protocol to detect and eliminate illicit discharges,
            4. Assessment/ranking of catchments (based on complaints, past water quality data, adjacent failing septic/sewer systems, surrounding area, TMDL surface waters), and
            5. Tracking mechanism to evaluate and report on the overall effectiveness of the IDDE program.

V. Implement IDDE Program
    a. Implement catchment investigations according to program and permit conditions within 15 months of the effective date of the Permit. **Catchment investigations procedures have been written and included in the Town's IDDE Plan**.
        i. Continue to enforce bylaw.
        ii. Draft and implement stormwater management regulations. **These regulations have been drafted**.
        iii. Coordinate water quality monitoring with dry weather screening.
            1. New monitoring system should include surveying for illicit discharge detection.

VI. Employee Training
    a. Coordinate annual stormwater training and incorporate with training required in Section 6.2.IV.B of the MS4 Permit. **Regular annual training has been provided to the Town.**
VII. Dry Weather Screening
    a. Conduct screening in accordance with outfall screening procedure and permit conditions. **Dry weather screenings were complete in 2020.**
VIII. Conduct Wet Weather Screening
    a. Conduct screening in accordance with outfall screening procedure and permit conditions, and as determined by dry weather screening results, within ten years of effective permit date. **Wet weather screening has been started and is ongoing**.
    b. To identify areas with higher potential for illicit connections, the permittee shall identify the presence of any of the following System Vulnerability Factors (SVFs):
        i. History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages;
        ii. Common or twin-invert manholes serving storm and sanitary sewer alignments;
        iii. Common trench construction serving both storm and sanitary sewer alignments;
        iv. Crossings of storm and sanitary sewer alignments where the sanitary sewer system is shallower than the storm drain system;
        v. Sanitary sewer alignments known or suspected to have been constructed with an underdrain system;
        vi. Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints;
        vii. Areas formerly served by combined sewer systems; and
        viii. 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.
IX. Conduct ongoing screening as necessary, and upon completion of the IDDE program.
X. IDDE Regulations
    a. Continue to eliminate illicit discharge violations.

SECTION 3.4 CONSTRUCTION SITE STORMWATER RUNOFF CONTROL

The Town must implement a program focused on controlling stormwater runoff from construction sites. The program shall minimize or eliminate erosion on site and maintain the site so that the sediment is not transported in stormwater or allowed to discharge to a water of the U.S. through the Town's MS4, as stated in part 2.3.5 of the Permit.

Section 3.4.1 Background

The Town enforces submittal of Stormwater Pollution Prevention Plans for all projects greater than one acre in size, and a comprehensive review of all construction documents. For projects less than one acre in size, the Town performs a comprehensive stormwater review to ensure compliance with local and state stormwater requirements. All site development plans are required to provide proper erosion controls and comply with the DEP Stormwater Management Regulations. The Conservation Commission works to reduce non-point source pollution by implementing a vegetated buffer area on construction activities. In order to make site inspections more efficient, the Engineering Department created stormwater inspection applications to upload all inspection data to the GIS system and store that information based on the location of the inspection.

Section 3.4.2 Best Management Practices

I. Site Inspection and Enforcement of Erosion and Sediment Control (ESC) Measures.
    a. Complete written procedures of site inspections and enforcement procedures within 1 year of effective date of the Permit. **These procedures have been prepared**.
        i. Recommend standards and practices for Town inspection procedures. Seek input from relevant town groups (e.g. Conservation Commission, Public Works Department, Building Department, etc.).
        ii. Develop inspection form that includes ESC measures and integrate them with existing Town forms.

II. Site Plan Review
    a. Complete written procedures of site plan review and begin implementation within 1 year of the effective date of the Permit. **These procedures have been prepared**.
        i. Include site plan review workflow chart with permit applications.
        ii. Review current Town procedure regarding when a Construction General Permit (CGP) is needed.
            1. CGP required for disturbance of 1 acre or greater.

III. Erosion and Sediment Control Ordinance
    a. Adoption of requirements for construction operators to implement a sediment and erosion control program within 1 year of the effective date of the Permit.
        i. Require all projects with a CGP to conduct erosion and sediment control inspections as described within the Rules and Regulations for Stormwater Management.
        ii. Update Town inspection forms with erosion and sediment control checklist.

iii. Continue to implement Soil and Erosion Control requirements listed in the Rules and Regulations for Stormwater Management.
iv. Continue to monitor all construction activities within the Town of Stoughton for erosion and sediment control issues.

IV. Waste Control
   a. Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes within 1 year of the effective date of the Permit.
      i. Incorporate into Town's general conditions for building permit and/or site plan review.
      ii. Review and modify Town bylaw to meet new requirements.

V. Pre-Construction/Coordination Meetings
   a. Continue GIS mapping and develop protocol for submitting as-builts electronically.

SECTION 3.5 POST-CONSTRUCTION STORMWATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

The objective of an effective post construction stormwater management program, part 2.3.6 of the Permit, is to reduce the discharge of pollutants found in stormwater to the MS4 through the retention or treatment of stormwater after construction on new or redeveloped sites and to ensure proper maintenance of installed stormwater controls.

Section 3.5.1 Background

The Town's Stormwater Committee drafted a revised stormwater management bylaw that was approved by Town Meeting in 2021. The new bylaw – Chapter 259: Stormwater Management Bylaw – is consistent with the 2018 MS4 Permit and 2020 Revisions. Additionally, Rules and Regulations for Stormwater Management was drafted and adopted by Town Council in October 2021. Each new project is now reviewed prior to construction and post-construction operation and maintenance manuals are required to be submitted prior to project approval.

In Year 4, the Town assessed local bylaws to determine the feasibility of constructing green infrastructure practices as well as the creation of impervious cover. These two assessments are included in **Appendix P**. The Town has reviewed this assessment and is reviewing what follow-up steps need to be taken, including revising existing bylaws. Additionally, the Town maintains a list of five (5) permittee-owned properties to prioritize for BMP retrofits. Details on the prioritization of municipal properties for BMP retrofits are included in **Appendix P**.

Section 3.5.2 Best Management Practices

I. Post-Construction Ordinance
   a. The Town shall develop or modify, as appropriate, an ordinance or other regulatory mechanism within two (2) years of the effective date of the permit. **The Town has completed this task within the two (2 years) of the effective date of the permit**.

II. As-Built Plans For On-Site Stormwater Control
   a. Require submission of electronic data for as-built drawings (e.g. PDF, AutoCAD, GIS) within 2 years of completed construction. As-built plans are required as part of the regulations.
      i. O&M certification should include contact and contract information for contractors that perform O&M on the private BMPs.

III. Inventory and Priority Ranking of MS4-Owned Properties that may be Retrofitted with BMPs
   a. Conduct detailed inventory of MS4 owned properties and rank for retrofit potential within 4 years of permit effective date. **The priority ranking has been complete and is included in Appendix P**.
      i. Inventory Town parcels for existing stormwater BMPs and identify opportunities for GI/LID retrofits.
         1. Include schools, parks, recreation facilities, police/fire/EMS, libraries, public works, and town administrative offices.

IV. Allow Green Infrastructure
   a. Within 4 years of permit effective date, develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist. **The assessment has been complete and is included in Appendix P**.
      i. Review bylaws and applications in order to incorporate green infrastructure and low impact development language as needed.
      ii. Educate the public on green infrastructure through existing BMP retrofits/demonstration projects.

V. Street Design and Parking Lot Guidelines
   a. Within 4 years of permit effective date, develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options. **The assessment has been complete and is included in Appendix P**..
      i. Publish street design and parking lot guidelines on stormwater website.

VI. Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality. **This item was completed through the adoption of the Bylaws and Rules and Regulations.**
   a. Within 2 years of permit effective date, adopt, amend, or modify regulation mechanisms to meet permit requirements.

i. Review rules and regulations and modify as needed. Include evaluation of subdivision/redevelopment requirements to keep stormwater runoff onsite and for long-term operations and management of private BMPs.
ii. Continue to implement Post-Construction Site Runoff Control Bylaw.
iii. Continue to require submission of long term O&M pollution prevention plans for all developments greater than an acre.
iv. Continue to enforce asbestos removal bylaw.
v. Continue to enforce lead paint removal bylaw.
vi. Continue to enforce compliance with local Conservation and Stormwater bylaws and regulations.

VII. Monitor construction impacts on the number of impervious surfaces. **This work is ongoing**.
   a. Record pre/post-construction changes to amount of impervious surface.
      i. Require submittal of impervious area data with as-built records.
         1. Projects should report quantities of impervious area per and post-construction, along with the net increase/decrease of impervious area.

SECTION 3.6 GOOD HOUSEKEEPING AND POLLUTION PREVENTION FOR PERMITTEE OWNED OPERATIONS

The objective of this control measure, part 2.3.7 of the Permit, states that the permittee shall implement an operations and maintenance program for Town-owned operations that shall focus on preventing or reducing pollutant runoff and protecting water quality from Town operations.

Section 3.6.1 Background

Catch basin cleaning, street sweeping and swale maintenance are all performed by the DPW to reduce stormwater pollution. The DPW also ensures that all hazardous materials are stored inside, and a “no exposure” rating from EPA was obtained. To eliminate inflow and infiltration, the DPW is constantly fixing all sewer pipes with leakage issues repairing sewer piping to reduce inflow and infiltration.

The Conservation Commission requires pesticide-free landscaping practices as a special requirement in the Orders of Conditions, and the Commission also developed a Hydro-raking Program to mitigate the extensive exotic vegetation problem at Ames Long Pond. The DPW is also in the process of formalizing operations and techniques for catch basin cleaning, street sweeping and winter road maintenance.

Section 3.6.2 Best Management Practices

I. Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment within 2 years of permit effective date. **This item has been completed**.
    a. Develop standards of practice for O&M of each public facility and combine in Town O&M Manual.

II. Maintain and update inventory of all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment within 2 years of the permit effective date. **This item has been completed**.
    a. Develop a capital improvement plan that deals with flood prevention measures and water quality improvements.
        i. Coordinate implementation with Section 5.2.II of the Permit.

III. Establish and implement program for repair and rehabilitation of MS4 infrastructure within 2 years of the permit effective date.
    a. Inspect assets and assess condition to develop program.
    b. Review annual budget to set aside funding.

IV. Stormwater Pollution Prevention Plan (SWPPP) For Maintenance Garages, Transfer Stations and Other Waste-Handling Facilities. **This item has been completed**.
    a. Develop plan within 2 years of permit effective date.
    b. Schedule annual employee training.
        i. Continue to look into workshop and speaking opportunities and seek formal training for all departments.
    c. Inspect facilities quarterly.
    d. Develop an asset management system to process complaints, permits, inspections, and maintenance.
    e. Continue to implement improved recycling standards and requirements.

V. Catch Basin Cleaning (**ongoing annually**)
    a. Develop and maintain an annual cleaning schedule.
    b. Develop electronic data collection system for tracking, inspection, and maintenance.
        i. Update catch basin cleaning services RFP requirements to require electronic data collection that is compatible with the Town's GIS and asset management system.

VI. Street Sweeping Program (**ongoing annually**)
    a. Continue to implement street sweeping program, sweeping streets a minimum of once annually in the spring, except in the Taunton River Watershed, where streets must be swept twice yearly due to the nitrogen impairment.
    b. Include number of miles of streets cleaned per year, and volume or mass or material removed in each annual stormwater report (rural and uncurbed exceptions apply).

VII. Road Salt Use Optimization Program/Winter Road Maintenance (**ongoing annually**)
    a. Continue working on salt reduction strategies.
        i. Continue to develop and implement winter road maintenance procedures including use and storage of salt and sand.

ii. Continue to minimize the use of salts and ensure that snow is not disposed in water ways.
iii. Calibrate spreaders to reduce salt use.

VIII. Inspection and maintenance of stormwater treatment structures (ongoing annually)
   a. Establish and implement inspection and maintenance procedures for annual inspection/maintenance.

IX. Norfolk County Mosquito Control Project
   a. Coordinate annual meeting with Control Project Staff to discuss potential stormwater impacts from mosquito control applications and potential BMP retrofits that can minimize standing water in catch basins (e.g. leaching structures).

X. Massachusetts Department of Transportation
   a. Coordinate annual meeting with MassDOT District 5 Staff to discuss stormwater system interconnections, common receiving waters, and opportunities for collaboration.

SECTION 4 WATER QUALITY BASED REQUIREMENTS

In compliance with the Clean Water Act (CWA), each state must administer a program to monitor and assess the quality of its surface and groundwater. Section 305(b) process of the CWA entails assessing each use for rivers, lakes, and coastal waters, and causes and sources of impairment are identified wherever possible. Section 303(d) of the CWA along with the regulations at 40 CFR 130.7 requires states to identify those water bodies that are not expected to meet surface water quality standards (SWQS) after the implementation of technology based controls, and prioritize them for the development of Total Maximum Daily Loads (TMDLs). A TMDL establishes the maximum amount of a pollutant that may be introduced into a water body and still ensure attainment and maintenance of water quality standards. The 303(d) List of Impaired Waters (303(d) List) lists each water body in one of the following five categories:

Category 1.	Unimpaired and not threatened for all designated uses;
Category 2.	Unimpaired for some uses and not assessed for others;
Category 3.	Insufficient information to make assessments for any uses;
Category 4.	Impaired or threatened for one or more uses, but not requiring the calculation of a TMDL; or
Category 5.	Impaired or threatened for one or more uses and requiring a TMDL.

Waters listed in Category 5 constitute the 303(d) List and are to be reviewed and approved by the EPA. Table 3-1: Impaired Waters, TMDLs and Impairments details the Town's Category 5 and 4 water bodies. An overall map of the Town of Stoughton's stormwater system is attached as Figure 3: Stormwater System Map.

SECTION 4.1 BACKGROUND

Best management practices aim to improve and mitigate stormwater water quality impairments. The Town of Stoughton has 61 outfalls located within the Boston Harbor: Neponset Watershed, 87 outfalls located within the Taunton River Watershed, and 11 outfalls located within the Boston Harbor: Weymouth & Weir Watershed. This program will focus on impaired waters requiring a TMDL (Category 5) in the Taunton River Watershed and the Boston Harbor: Neponset Watershed, shown on **Figure 3.**

There are four (4) Category 5 water segments in Stoughton requiring a TMDL.

1) Beaver Meadow Brook (MA73-20) is a 3.3 mile segment, which outlets from Glenn Echo Pond, and is impaired due to dissolved oxygen. It also has a finalized TMDL report for E. coli.
2) A one mile segment of Unnamed Tributary (MA73-32) from the outlet of Town Pond to the confluence of Steep Hill Brook has an impairment for benthic macroinvertebrates. It has a finalized TMDL for E. coli as well. Both Beaver Meadow Brook and the Unnamed Tributary are located within the Boston Harbor: Neponset Watershed.

3) Ames Long Pond (MA62001), located within the Taunton Watershed, is impaired for aquatic plants (macrophytes), fanwort, non-native aquatic plants, and turbidity. This waterbody, MA62001, is approximately 87.7 acres. The turbidity impairment requires the Town to adhere to requirements in part B of Appendix H of the Permit. Turbidity falls under solids, oil and grease, or metals impairment requirements which are listed below (Section 4.2.2) and in Appendix J.
4) Steep Hill Brook (MA73-18) was previously a Category 3 ("No uses assessed") waterbody when the original SWMP and NOI were drafted. In the 2018/2020 Integrated List of Waters, this river is listed as having an E. coli impairment that lacks a final TMDL. This waterbody starts at Pinewood Pond and ends at Bolivar Pond, Canton. It's approximately 0.9 miles in length and is located within the Boston Harbor: Neponset Watershed.

The Taunton River Watershed has a watershed-wide EPA approved TMDL requirement for pathogens. This impairment requires Stoughton to follow the requirements listed below to mitigate pathogen discharges to the MS4. The Town should prioritize sampling their 87 outfalls within the Taunton River Watershed for bacteria and pathogens. In addition, the Taunton River Watershed has a nitrogen impairment that lacks a final TMDL report. All discharges in the Taunton River Watershed must also be tested for nitrogen and the Town must adhere to requirements listed in part I of Appendix H of the Permit.

There are 11 outfalls in Town that are located within the Boston Harbor: Weymouth & Weir Watershed. This watershed has a watershed-wide EPA-approved TMDL for pathogens. Thus, Stoughton must follow the requirements for pathogens in Appendix F of the Permit (and discussed in Section 4.2 below) to mitigate contaminated discharges to the MS4.

There are 61 outfalls in Town that are located within the Boston Harbor: Neponset Watershed. This watershed has a watershed-wide EPA-approved TMDL for bacteria. Stoughton must follow the requirements for bacteria in Appendix F of the Permit (discussed in **Section 4.2** below) to mitigate contaminated discharges to the MS4.

Section 4.1.1 Update to the Town's Phosphorus Impairment

The Unnamed Tributary (MA73-32), flowing north from Town Pond to Canton, had a phosphorus impairment in the 2014 Integrated List of Waters. This List of Waters is published by the Massachusetts Department of Environmental Protection (MassDEP) and updated every two years. On February 2, 2022, the newest 2018/2020 Integrated List of Waters was finalized and removed the phosphorus impairment from the unnamed tributary.

According to part II.3 of Appendix H, the Town is relieved of its Appendix H part II phosphorus requirements if the waterbody is no longer impaired by phosphorus. Further, all part II phosphorus requirements due before the date of inapplicability are still required; all requirements due after the date of inapplicability are no longer required. Thus, starting in Year 4 and onward, the Town of Stoughton no longer has a phosphorus impairment.

SECTION 4.2 PERMIT REQUIREMENTS

Section 4.2.1 Public Education and Outreach

A. Nitrogen (**implementation is ongoing**)
    1. Distribute an annual message in the spring (April/May) timeframe that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers.
    2. Distribute an annual message in the summer (June/July) timeframe encouraging the proper management of pet waste, including noting any existing ordinances where appropriate.
    3. Distribute an annual message in the fall (August/September/October) timeframe encouraging the proper disposal of leaf litter.

A. Bacteria and Pathogens (**implementation is ongoing**)
    1. Distribute an annual message that encourages the proper management of pet waste, including noting any existing ordinances where appropriate.
    2. Disseminate educational materials to dog owners at the time of issuance or renewal of dog license, or other appropriate time.
    3. Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

Section 4.2.2 Stormwater Management in New Development and Redevelopment

A. Nitrogen
    1. Include a requirement that new development and redevelopment stormwater management BMPs be optimized for nitrogen removal. **This is included in the new Bylaws and Rules and Regulations**.
    2. Retrofit inventory and priority ranking under 2.3.6.1.b shall include consideration of BMPs to reduce nitrogen discharges. **The inventory and priority ranking has been completed**.

B. Solids (Turbidity)
    1. Incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or unexpected event.
    2. Require any stormwater management system designed to infiltrate stormwater on commercial or industrial sites to provide the level of pollutant removal equal to or greater than the level of pollutant removal provided through the use of biofiltration of the same volume of runoff to be infiltrated, prior to infiltration.

Section 4.2.3 Good Housekeeping and Pollution Prevention

A. Nitrogen
    1. Establish requirements for use of slow release fertilizers on permittee owned property currently using fertilizer, in addition to reducing and managing fertilizer use as provided in 2.3.7.1. **Completed**.
    2. Establish procedures to properly manage grass cuttings and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces. **Completed**.
    3. Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year, once in the spring (following winter activities such as sanding) and at least once in the fall (September 1 to December 1, or following leaf fall) . **Completed**.

B. Solids (Turbidity)
    1. Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads. **Completed**.
    2. Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full. Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads. **Completed**.

Section 4.2.4 Illicit Discharge

A. Bacteria and Pathogens
    1. Implement the illicit discharge program required by the Permit. Catchments draining to any water body impaired for bacteria or pathogens shall be designated either Problem Catchments or HIGH priority in implementation of the IDDE program. **Completed**.

Section 4.2.5 Additional Requirements (Nitrogen)

A. Nitrogen (**The Nutrient Source Identification Report has been completed.**)
    1. Within four years of the permit effective date the permittee shall complete a Nitrogen Source Identification Report. It includes the following elements:
        i. Calculation of total MS4 area draining to the water quality limited segments of their tributaries, incorporating updated mapping of the MS4 and catchment delineations produced pursuant to part 2.3.4.6,
        ii. All screening and monitoring results pursuant to part 2.3.4.7.d, targeting the receiving water segment(s),
        iii. Impervious area and DCIA for the target catchment,
        iv. Identification, delineation, and prioritization of potential catchments with high nitrogen loading, and

v. Identification of potential retrofit opportunities or opportunities for the installation of structural BMPs during redevelopment.

2. The final Nitrogen Source Identification Report shall be submitted to EPA as part of the year 4 annual report.
3. Within five years of the permit effective date, the permittee shall evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii. Or identified in the Nitrogen Source Identification Report that are within the drainage area of the impaired water or its tributaries.
4. The permittee shall provide a listing of planned structural BMPs and a plan and schedule for implementation in the year 5 annual report.
5. The permittee shall plan and install a minimum of one structural BMP as a demonstration project within the drainage area of the water quality limited water or its tributaries within six years of the permit effective date. The demonstration project shall be installed targeting a catchment with high nitrogen load potential.
6. The permittee shall install the remainder of the structural BMPs in accordance with the plan and schedule provided in the year 5 annual report.
7. Any structural BMPs listed in **Table 3** of **Attachment 1** to **Appendix H** already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. The permittee shall document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each annual report.

At any time during the permit term, the Town may be relieved of additional requirements in Appendix H applicable to it when in compliance with the requirements in **Appendix H**.

FIGURE 1

System Locus

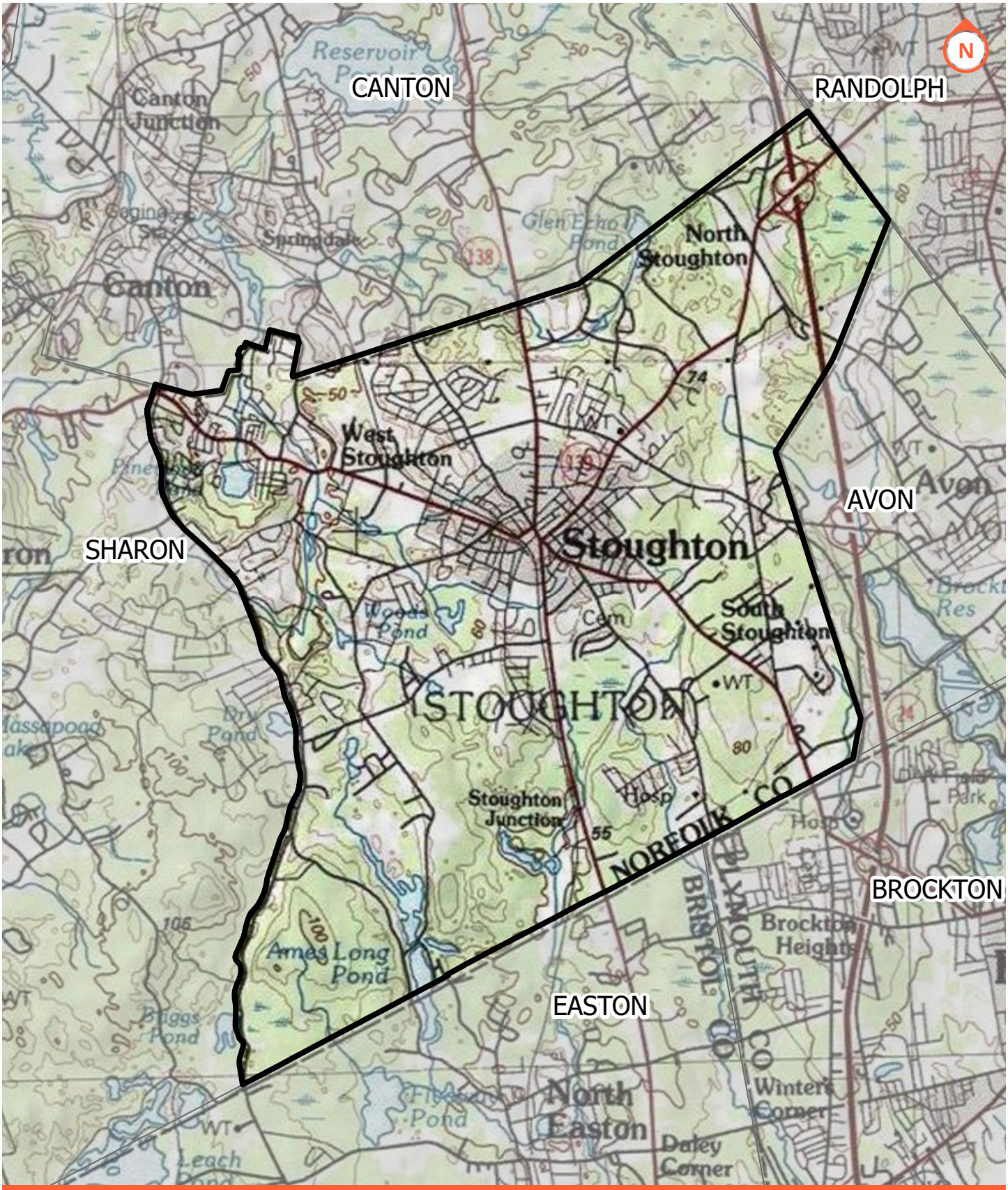


Figure 1

System Locus

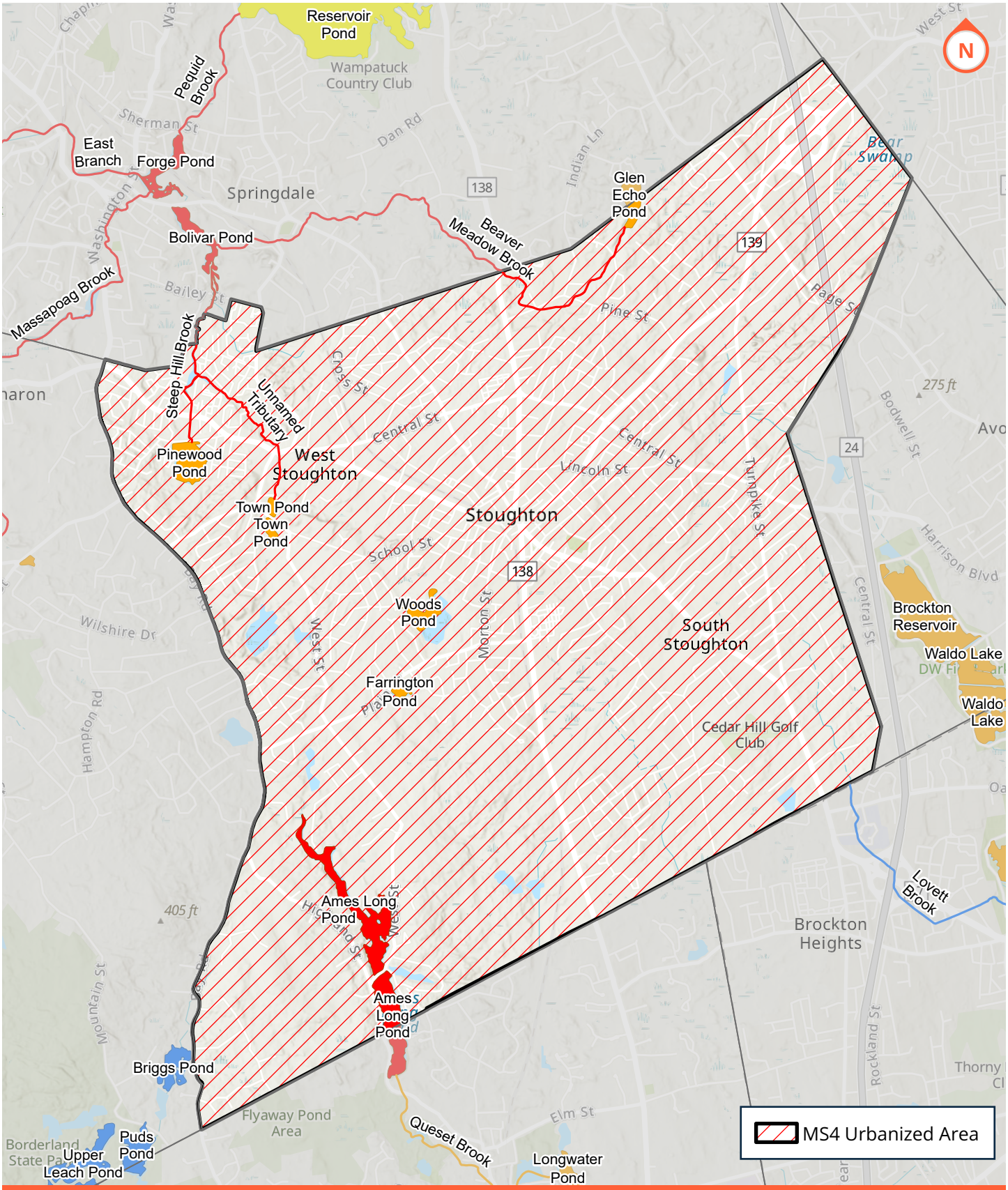
Stoughton, Massachusetts

ENVIRONMENTAL PARTNERS

— An Apex Company —

FIGURE 2

MS4 Urbanized Areas



ENVIRONMENTAL PARTNERS
— An Apex Company —

Figure 2
Urbanized Areas
Stoughton, Massachusetts

FIGURE 3

Stormwater System Map

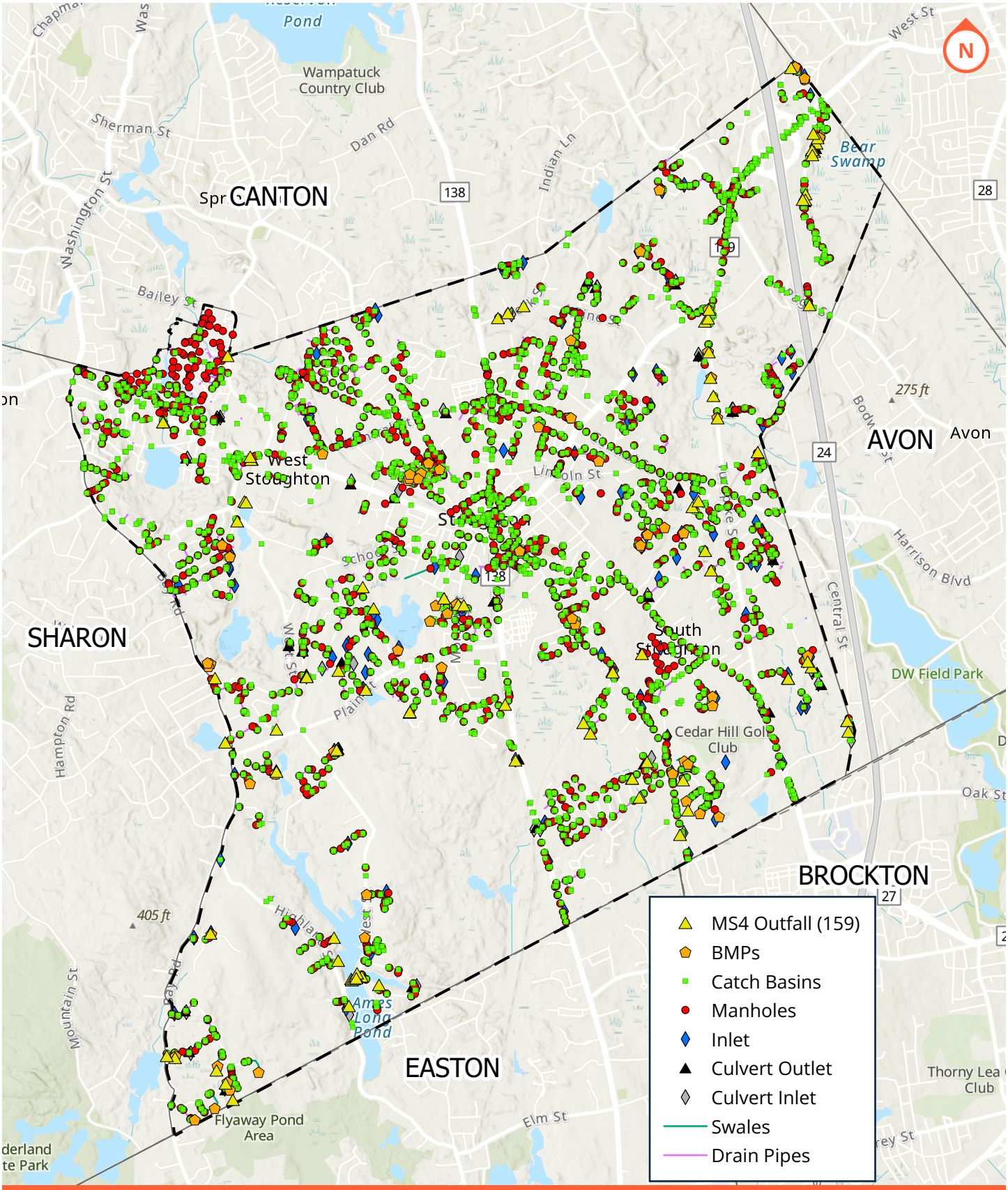


Figure 3

Stormwater System

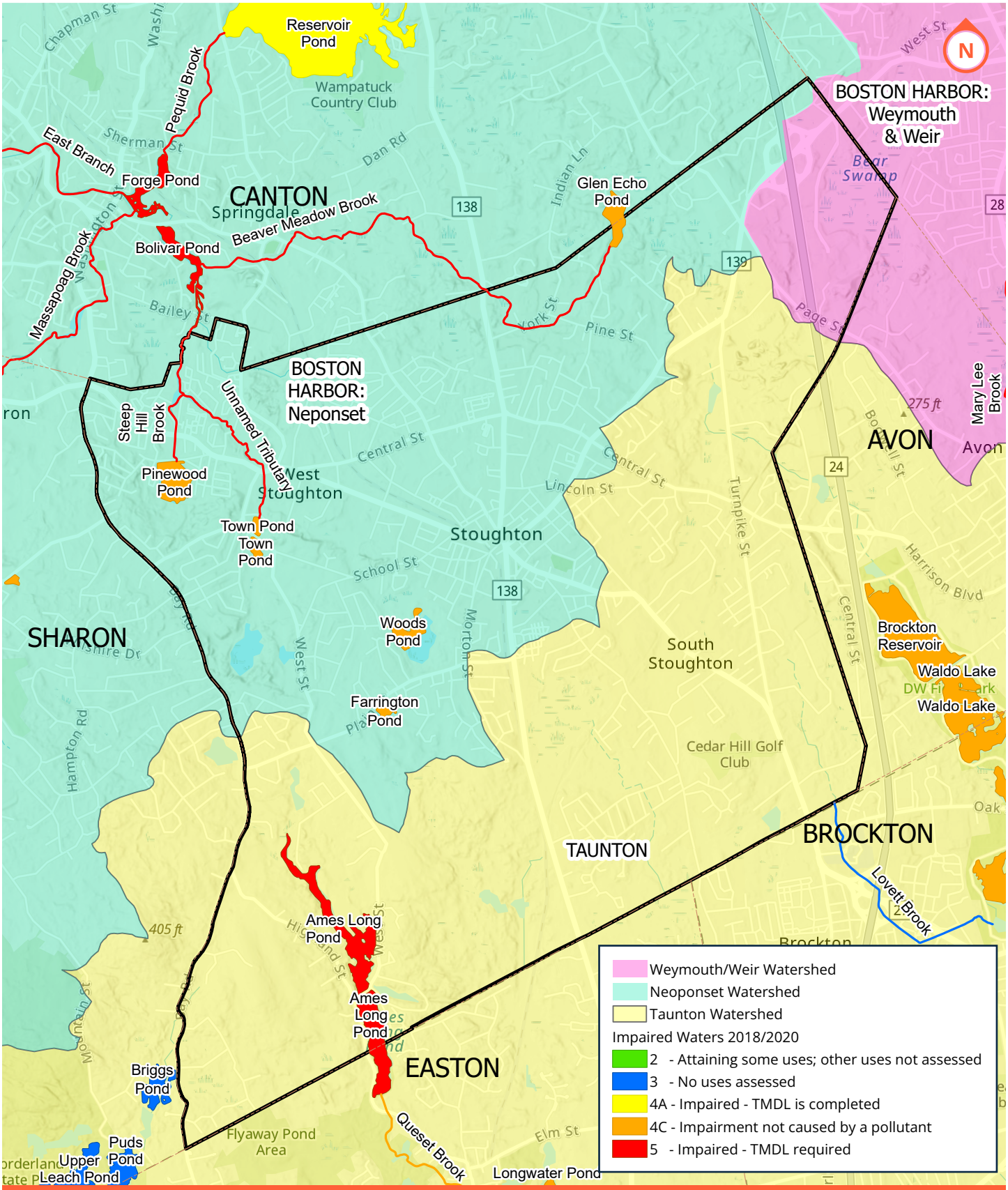
Stoughton, Massachusetts

ENVIRONMENTAL PARTNERS

An Apex Company

FIGURE 4

Town Watersheds



ENVIRONMENTAL PARTNERS
An Apex Company

Figure 4
Town Watersheds
Stoughton, Massachusetts
7/19/2023

0 2,500 5,000 10,000
1:50,000
Feet

APPENDIX A

MA MS4 Hyperlinks and References

MA MS4 General Permit Hyperlinks

General Hyperlinks

EPA MA MS4 Permit: https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit

DEP Permit: http://www.mass.gov/eea/agencies/massdep/water/wastewater/stormwater.html#8

Town Hyperlink: https://www.stoughton.org/engineering-office/pages/stormwater-information

MCM 1: Public Education and Outreach

EPA's Stormwater Education Toolbox, MassDEP's stormwater outreach materials, and other templates relevant to MCM 1 can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#peo

MCM 3: Illicit Discharge Detection and Elimination (IDDE) Program

IDDE Program Template, SOPs, and other templates relevant to IDDE can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#idde

MCM 4: Construction Site Stormwater Runoff Control

Examples and templates relevant to MCM 4, including model ordinances and site inspection templates, can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#csrc

MCM 5: Post Construction Stormwater Management in New Development and Redevelopment

Examples and templates relevant to MCM 5, including model ordinances and bylaw review templates and guidance can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#pcsm

MCM 6: Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Examples and templates relevant to MCM 6, including SOP templates for catch basin cleaning, street sweeping, vehicle maintenance, parks and open space management, winter deicing, and Stormwater Pollution Prevention Plans can be found here:
https://www.epa.gov/npdes-permits/stormwater-tools-new-england#gh

APPENDIX B

Notice of Intent

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part I: General Conditions

General Information

Name of Municipality or Organization: Stoughton State: MA

EPA NPDES Permit Number (if applicable): MAR041063

Primary MS4 Program Manager Contact Information

Name: Marc J. Tisdelle, P.E. Title: Town Engineer

Street Address Line 1: Town Hall

Street Address Line 2: 10 Pearl Street

City: Stoughton State: MA Zip Code: 02072

Email: mtisdelle@stoughton-ma.gov Phone Number: (781) 341-1300

Fax Number: (781) 341-1086

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed): Engineering Office, 10 Pearl Street, Stoughton, MA; www.stoughton.org/engineering office/pages/stormwater-information

Eligibility Determination

Endangered Species Act (ESA) Determination Complete? Yes Eligibility Criteria (check all that apply): ☐ A ☐ B ☒ C

National Historic Preservation Act (NHPA) Determination Complete? Yes Eligibility Criteria (check all that apply): ☒ A ☐ B ☐ C

☑ Check the box if your municipality or organization was covered under the 2003 MS4 General Permit

MS4 Infrastructure (if covered under the 2003 permit)

Estimated Percent of Outfall Map Complete? *(Part II, III, IV or V, Subpart B.3.(a.) of 2003 permit)* 100%

If 100% of 2003 requirements not met, enter an estimated date of completion (MM/DD/YY):

Web address where MS4 map is published:

If outfall map is unavailable on the internet an electronic or paper copy of the outfall map must be included with NOI submission (see section V for submission options)

www.mapsonline.net/stoughtonma/new_public_site.html

Regulatory Authorities (if covered under the 2003 permit)

Illicit Discharge Detection and Elimination (IDDE) Authority Adopted? *(Part II, III, IV or V, Subpart B.3.(b.) of 2003 permit)* Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 05/24/06

Construction/Erosion and Sediment Control (ESC) Authority Adopted? *(Part II,III,IV or V, Subpart B.4.(a.) of 2003 permit)* Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 05/24/06

Post- Construction Stormwater Management Adopted? *(Part II, III, IV or V, Subpart B.5.(a.) of 2003 permit)* Yes

Effective Date or Estimated Date of Adoption (MM/DD/YY): 05/24/06

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part II: Summary of Receiving Waters

Please list the waterbody segments to which your MS4 discharges. For each waterbody segment, please report the number of outfalls discharging into it and, if applicable, any impairments.

Massachusetts list of impaired waters: *Massachusetts 2014 List of Impaired Waters*- http://www.mass.gov/eea/docs/dep/water/resources/07v5/14list2.pdf

Check off relevant pollutants for discharges to impaired waterbodies (see above 303(d) lists) without an approved TMDL in accordance with part 2.2.2.a of the permit. List any other pollutants in the last column, if applicable.

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Ames Long Pond (MA62001)	12	☐	☐	☐	☐	☐	☐	☒	☐	☐	Non-Native Aquatic Plants, Aquatic Plants (Macrophytes)
Beaver Brook	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	Aquatic Macroinvertebrate Bioassessments
Beaver Meadow Brook (MA73-20)	13	☐	☐	☒	☐	☐	☐	☐	☐	☐	
Bolivar Pond (MA73005)	1	☐	☐	☐	☐	☐	☐	☒	☐	☐	
Briggs Pond (MA62021)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Dorchester Brook	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Dry Pond	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
East Branch Neponset River	31	☐	☐	☒	☐	☐	☐	☐	☒	☐	Aquatic Macroinvertebrate Bioassessments, Fecal Coliform, DDT, PCB in Fish Tissue
Lovett Brook (MA62-46)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Plain Street Pond	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Steep Hill Brook (MA73-18)	16	☐	☐	☐	☐	☐	☐	☐	☒	☐	(TMDL taken from Massachusetts 2016 List of Impaired Waters)
Town Pond (MA73056)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	Non-Native Aquatic Plants
Woods Pond (MA73055)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	Non-Native Aquatic Plants
Unnamed Pond near Three Swamp Brook (42.14348, -71.06517)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Pond near Woods Pond (42.11081, -71.11629)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary near Dorchester Brook (42.10344, -71.08098)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary near Woods Pond (42.11013, -71.10934)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Ames Long Pond (42.09003, -71.13424)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Unnamed Tributary to Ames Long Pond (42.10058, -71.13084)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary To Beaver Brook (42.14530, -71.08055)	11	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.12766, -71.07440)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.13174, -71.08156)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.12881, -71.07807)	8	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.12501, -71.08639)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.10906, -71.08463)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.11375, -71.08459)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Brook (42.11762, -71.08405)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Beaver Meadow Brook (42.14060, -71.11240)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Brockton Reservoir (42.12119, -71.07132)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Dorchester Brook (42.11301, -71.09610)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Queset Brook (42.07672, -71.13212)	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Steep Hill Brook (MA73-32) (42.13416, -71.13259)	9	☐	☐	☐	☐	☐	☒	☐	☒	☐	Aquatic Macroinvertibrate Bioassessments, Low pH
Unnamed Tributary to Steep Hill Brook (42.11858, -71.10726)	7	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Steep Hill Brook (42.12042, -71.11649)	6	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Town Pond (42.11410, -71.12355)	11	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Tributary to Town Pond (42.10567, -71.11967)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	

Waterbody segment that receives flow from the MS4	Number of outfalls into receiving water segment	Chloride	Chlorophyll-a	Dissolved Oxygen/ DO Saturation	Nitrogen	Oil & Grease/ PAH	Phosphorus	Solids/ TSS/ Turbidity	E. coli	Enterococcus	Other pollutant(s) causing impairments
Unnamed Tributary (42.15792, -71.06823)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands to Beaver Brook (42.15518, -71.08070)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands to Beaver Brook (42.12118, -71.07754)	5	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands to Three Swamp Brook (42.15629, -71.06474)	12	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands near Beaver Meadow Brook (42.14179, -71.09929)	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands near Lovett Brook (42.11384, -71.06507)	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed Wetlands near Lovett Brook (42.10794, -71.06107)	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	

Click to lengthen table

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary

Identify the Best Management Practices (BMPs) that will be employed to address each of the six Minimum Control Measures (MCMs). For municipalities/organizations whose MS4 discharges into a receiving water with an approved Total Maximum Daily Load (TMDL) and an applicable waste load allocation (WLA), identify any additional BMPs employed to specifically support the achievement of the WLA in the TMDL section at the end of part III.

For each MCM, list each existing or proposed BMP by category and provide a brief description, responsible parties/departments, measurable goals, and the year the BMP will be employed (public education and outreach BMPs also requires a target audience). **Use the drop-down menus in each table or enter your own text to override the drop down menu.**

MCM 1: Public Education and Outreach

BMP Media/Category (enter your own text to override the drop down menu)	**BMP Description**	**Targeted Audience**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal**	**Beginning Year of BMP Imple-mentation**
Brochures/Pamphlets	Distribution of a minimum of two (2) educational messages over the permit term	Residents	DPW Operations, Engineering, Neponset River Watershed Association	Continue to circulate information of stormwater pollution awareness and pet waste management	2018
Brochures/Pamphlets	Distribution of a minimum of two (2) educational messages over the permit term	Businesses, Institutions and Commercial Facilities	DPW Operations, Engineering, Neponset River Watershed Association	Continue to circulate information of stormwater pollution awareness	2018
Brochures/Pamphlets	Distribution of a minimum of two (2) educational messages over the permit term	Developers (construction)	DPW Operations, Engineering, Neponset River Watershed Association	Continue to circulate information of stormwater pollution awareness	2018
Brochures/Pamphlets	Distribution of a minimum of two (2) educational messages over the permit term	Industrial Facilities	DPW Operations, Engineering, Neponset River Watershed Association	Continue to circulate information of stormwater pollution awareness	2018
Web Page	Maintain stormwater website; Provide outreach materials on website; Consider creating a Town Resident Notification System for stormwater alerts (e.g. severe weather, flooding)	Residents	DPW Operations, Engineering, Neponset River Watershed Association	Continue to maintain stormwater website	2018

Web Page	Maintain stormwater website; Provide outreach materials on website; Consider creating a Town Resident Notification System for stormwater alerts (e.g. severe weather, flooding)	Businesses, Institutions and Commercial Facilities	DPW Operations, Engineering, Neponset River Watershed Association	Continue to maintain stormwater website	2018
Web Page	Maintain stormwater website; Provide outreach materials on website; Consider creating a Town Resident Notification System for stormwater alerts (e.g. severe weather, flooding)	Developers (construction)	DPW Operations, Engineering, Neponset River Watershed Association	Continue to maintain stormwater website	2018
Web Page	Maintain stormwater website; Provide outreach materials on website; Consider creating a Town Resident Notification System for stormwater alerts (e.g. severe weather, flooding)	Industrial Facilities	DPW Operations, Engineering, Neponset River Watershed Association	Continue to maintain stormwater website	2018
School Curricula/Programs	Classroom Education	Residents	Engineering, Neponset River Watershed Association	1. Stormwater presentation to Middle and High Schools 2. Provide Schools with Stormwater Materials	2018
Special Events/Festivals/Fairs	Household haz. waste/used oil collection	Residents	DPW Operations, Engineering	Continue to host annual household hazardous waste collection events at O'Donnell Middle School	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 2: Public Involvement and Participation

BMP Categorization	Brief BMP Description (enter your own text to override the drop down menu)	Responsible Department/Parties (enter your own text to override the drop down menu)	Additional Description/ Measurable Goal	Beginning Year of BMP Implementation
Public Review	SWMP Review	Engineering	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
Public Participation	SWMP Review	Engineering	Allow public to comment on stormwater management plan annually	2018
Public Participation	Hotline/webline - reporting problems/violations	DPW Operations, Neponset River Watershed Association	Publish contact on stormwater for soliciting complaints, questions, etc.	2018
Public Review	Stormwater Committee/Task Force	Board of Selectmen	Created Stormwater Committee consisting of members of PWD, Engineering and Conservation Commission Department. Major focus to identify stormwater related problem areas in Town and develop game plan for correcting problem and to comply with EPA requirements.	2018
Public Review	Review NOI	Engineering	Stormwater goals prioritized and published	2018
Public Participation	Household haz. waste/used oil collection	Board of Health, Conservation Commission, Public Works Dept.	Hold household hazardous waste collection day per year	2018
Public Participation	Public Hearing / Meetings Posted	Town Manager, Board of Selectmen, Planning Board, Zoning Board of Appeals, Cc	Information on public meetings posted in accordance with MGL Section 23B	2018

Public Participation	Neponset River Watershed Association Membership	Engineering, Neponset River Watershed Association	Attend several meetings per year and collaborate with other towns on MS4 matters	2018
Public Participation	Harris Pond Citizen Committee (Pinewood Lake Association)	Conservation Commission	Form committee to increase awareness and support to restore Harris Pond	2018
Public Participation	Ames Pond Citizens Committee	Conservation Commission	Form committee to increase awareness and support to restore Ames Long Pond	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 3: Illicit Discharge Detection and Elimination (IDDE)

BMP Categorization (enter your own text to override the drop down menu)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
SSO inventory	Develop SSO inventory in accordance of permit conditions	DPW Operations	Complete within 1 year of effective date of permit	2018
Storm sewer system map	Create map and update during IDDE program completion	Engineering	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018
Written IDDE program	Create written IDDE program	Engineering	Complete within 1 year of the effective date of permit and update as required	2018
Implement IDDE program	Implement catchment investigations according to program and permit conditions	Engineering	Complete 10 years after effective date of permit	2018
Employee training	Train employees on IDDE implementation	DPW Operations	Train annually	2018
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	DPW Operations, Engineering	Complete 3 years after effective date of permit	2018
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	Engineering	Complete 10 years after effective date of permit	2018
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	Engineering	Complete ongoing outfall screening upon completion of IDDE program	2018
IDDE Ordinance/Bylaw	Make updated revisions to IDDE Bylaw language	Engineering	Continue to implement and enforce IDDE bylaw, and make revisions as necessary.	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 4: Construction Site Stormwater Runoff Control

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Implementation**
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	Stormwater Committee, Engineering Dept., Conservation Commission	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	Engineering Dept, Planning Board, Conservation Commission	Complete within 1 year of the effective date of permit	2018
Erosion and Sediment Control	Adoption of requirements for construction operators to implement a sediment and erosion control program	Engineering Dept, Conservation Commission	Complete within 1 year of the effective date of permit	2018
Waste Control	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	Engineering Dept, Planning Board, Conservation Commission, Board of Health	Complete within 1 year of the effective date of permit	2018
Construction Ordinance/Bylaw	Make updated revisions to ESC Bylaw language	Engineering Dept, Planning Board, Conservation Commission	Continue to implement and enforce construction ordinance and make revisions as necessary.	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 5: Post-Construction Stormwater Management in New Development and Redevelopment

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
As-built plans for on-site stormwater control	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	Engineering, Planning Board, Conservation Commission	Require submission of as-built plans for completed projects	2018
Target properties to reduce impervious areas	Identify at least 5 permittee-owned properties that could be modified or retrofitted with BMPs to reduce impervious areas and update annually	Engineering, Planning Board, Conservation Commission	Complete 4 years after effective date of permit and report annually on retrofitted properties	2018
Allow green infrastructure	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	Engineering, Planning Board, Conservation Commission	Complete 4 years after effective date of permit and implement recommendations of report	2018
Street design and parking lot guidelines	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options.	Engineering, Planning Board, Conservation Commission	Complete 4 years after effective date of permit and implement recommendations of report	2018

Ensure any stormwater controls or management practices for new development and redevelopment meet the retention or treatment requirements of the permit and all applicable requirements of the Massachusetts Stormwater Handbook	Adoption, amendment, or modification of a regulatory mechanism to meet permit requirements	Engineering, Planning Board, Conservation Commission	Complete 2 years after effective date of permit	2018
Monitoring	Monitor construction impacts on amount of impervious surfaces	Engineering, Planning Board, Conservation Commission	Record pre/post-construction changes to amount of impervious surface	2018
Post-Construction Ordinance/Bylaw	Make updated revisions to Post-Construction Management Bylaw language	Engineering, Planning Board, Conservation Commission	Update Bylaw within 2 years of effective permit date	2018

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

MCM 6: Municipal Good Housekeeping and Pollution Prevention

BMP Categorization (enter your own text to override the drop down menu or entered text)	**BMP Description**	**Responsible Department/Parties** (enter your own text to override the drop down menu)	**Measurable Goal** (all text can be overwritten)	**Beginning Year of BMP Imple-mentation**
O&M procedures	Create written O&M procedures including all requirements contained in 2.3.7.a.ii for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW Operations, Engineering	Completed	
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	DPW Operations, Engineering	Complete 2 years after effective date of permit and implement annually	2018
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW Construction, Engineering	Completed	
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	DPW Operations, Conservation Committee	Complete and implement 2 years after effective date of permit	2018
Catch basin cleaning	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW Operations	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018
Street sweeping program	Sweep all streets and permitee-owned parking lots in accordance with permit conditions	DPW Operations	Sweep all streets and permitee-owned parking lots once per year in the spring	2018
Road salt use optimization program	Establish and implement a program to minimize the use of road salt	DPW Operations	Implement salt use optimization during deicing season	2018

Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	DPW Operations	Inspect and maintain treatment structures at least annually	2018
O&M Program (General)	Coordinate annual meetings with Norfolk County Mosquito Control to discuss stormwater impacts from mosquito control applications and minimizing standing water in catch basins	DPW Operations, Board of Health, Conservation Commission	Annual meetings	2018
O&M Program (General)	Coordinate meetings with District 5 DOT to discuss stormwater objectives within Town	Engineering, DPW Operations	Annual meetings	2019

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Total Maximum Daily Load (TMDL) Requirements

Use the drop-down menus to select the applicable TMDL, action description to meet the TMDL requirements, and the responsible department/parties. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Applicable TMDL	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
Taunton River Watershed (Bacteria/Pathogen)	Adhere to requirements in part A.III of Appendix F	DPW Operations
Neponset River Addendum (Bacteria/Pathogen)	Adhere to requirements in part A.III of Appendix F	DPW Operations
Neponset River (Bacteria/Pathogen)	Adhere to requirements in part A.III of Appendix F	DPW Operations

Notice of Intent (NOI) for coverage under Small MS4 General Permit

Part III: Stormwater Management Program Summary (continued)

Actions for Meeting Requirements Related to Water Quality Limited Waters

Use the drop-down menus to select the pollutant causing the water quality limitation and enter the waterbody ID(s) experiencing excursions above water quality standards for that pollutant. Choose the action description from the dropdown menu and indicate the responsible party. If no options are applicable, or more than one, **enter your own text to override drop-down menus.**

Pollutant	Waterbody ID(s)	Action Description	Responsible Department/Parties (enter your own text to override the drop down menu)
E. Coli	Unnamed Tributary (MA73-32)	Adhere to requirements in part III of Appendix H	Engineering
Phosphorus	Unnamed Tributary (MA73-32)	Adhere to requirements in part II of Appendix H	Engineering
Turbidity	Ames Long Pond (MA62001), Bolivar Pond (MA73005)	Adhere to requirements in part V of Appendix H	Engineering
Nitrogen	All discharges in the Taunton River Watershed	Adhere to requirements in part I of Appendix H	Engineering

Part IV: Notes and additional information

Use the space below to indicate the part(s) of 2.2.1and 2.2.2 that you have identified as not applicable to your MS4 because you do not discharge to the impaired water body or a tributary to an impaired water body due to nitrogen or phosphorus. Provide all supporting documentation below or attach additional documents if necessary. Also, provide any additional information about your MS4 program below.

Attachments:
Figure - MS4 Outfalls
USFWS Correspondence

The outfalls included in Part II: Summary of Receiving Waters were selected based on a 100 foot distance from any waters of the U.S. Coordinates listed under unnamed water segments are based on the NAD 1983 StatePlane Massachusetts FIPS 2001 (US Feet) Coordinate System, and are listed as latitude/longitude in decimal degrees.

Regarding the ESA section 7 consultation, I agree that the MS4 Permit will not adversely affect the Northern Long-eared Bat.

Under 36 CFR 800, this facility is an existing facility authorized by the previous Permit, and is not undertaking any activity involving subsurface land disturbance less than 1 acre. This MS4 Permit will have "no potential to cause effects", in accordance with 36 CFR 800.3 (a)(1).

Part V: Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Title:

Signature: Date:

[To be signed according to Appendix B, Subparagraph B.11, Standard Conditions]

Note: When prompted during signing, save the document under a new file name

APPENDIX C

Permit Schedule

MS4 Permit
Draft Schedule
Town of Stoughton, Massachusetts

July 2018 – MS4 Permit effective date to coincide with start of FY19

- **September 29, 2018** – Submit Updated NOI (within 90 days)

July 2019 – Items due within 1 year of effective date

- Submit Updated Stormwater Management Plan
- Written IDDE Plan, identify catchments contributing to areas with High Priority
- Additional Mapping – update stormwater system GIS (as needed)
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Develop O&M for facilities
- Inventory Facilities
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education/Outreach (*x3 for Impaired Water Requirements*)
    - Bacteria TMDL: Targeting Dog Waste / Septic Systems for– Beaver Meadow Brook
    - Nitrogen: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Taunton River Watershed
    - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Beaver Meadow Brook, Unnamed Tributary MA73-32
- Property Management for Nitrogen – fertilizer use, leaf litter, street sweeping (2x per year)*
- Property Management for Phosphorus – grass cuttings, leaf litter, street sweeping (2x per year)**
- Public Participation
- Annual Training

July 2020 – Items due within 2 years of effective date

- SWPPP for Appropriate Facilities
- SPCC Plan where appropriate
- Parks Maintenance Plan
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Updated Ordinance for Nitrogen*
- Updated Ordinance for Phosphorus**
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x3 for Impaired Water Requirements*)
    - Bacteria TMDL: Targeting Dog Waste / Septic Systems for– Beaver Meadow Brook
    - Nitrogen: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Taunton River Watershed

    - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Beaver Meadow Brook, Unnamed Tributary MA73-32
- Public Participation
- Annual Training

July 2021 – Items due within 3 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to promote green infrastructure – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x3 for Impaired Water Requirements*)
    - Bacteria TMDL: Targeting Dog Waste / Septic Systems for– Beaver Meadow Brook
    - Nitrogen: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Taunton River Watershed
    - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Beaver Meadow Brook, Unnamed Tributary MA73-32
- Public Participation
- Annual Training

July 2022 – Items due within 4 years of effective date

- Revisions to Stormwater Bylaw - Construction Site Stormwater Runoff Control
- Draft regulations to reduce impervious cover – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Nitrogen Source Identification Report*Phosphorous Source Identification Report*
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x3 for Impaired Water Requirements*)
    - Bacteria TMDL: Targeting Dog Waste / Septic Systems for– Beaver Meadow Brook
    - Nitrogen: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Taunton River Watershed
    - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Beaver Meadow Brook, Unnamed Tributary MA73-32
- Public Participation
- Annual Training

July 2023 – Permit Length (5 years)

- Inventory/Priority Ranking of LID retrofits on Town-Owned Property – Post-Construction Management
- System development for tracking Impervious Area – Post-Construction Management
- Ongoing Outfall Sampling (wet & dry) / Inspections / Update Mapping
- Evaluate all Properties for BMPs – Nitrogen removal* and Phosphorous Removal

- Plan and Scheduled for BMPs - Nitrogen removal* and Phosphorous Removal
- Education/Outreach – Two educational messages to each of the 4 audiences over 5 years
- Additional Education & Outreach (*x3 for Impaired Water Requirements*)
    - Bacteria TMDL: Targeting Dog Waste / Septic Systems for– Beaver Meadow Brook
    - Nitrogen: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Taunton River Watershed
    - Phosphorus: Targeting Fertilizer, Grass Clippings, Dog Waste and Leaf Litter – Beaver Meadow Brook, Unnamed Tributary MA73-32
- Public Participation
- Annual Training

**Additional requirements for Water Quality Assessment are required due to documented nitrogen impairments in the Taunton River Watershed. (see Appendix H, section I.)*

***Additional requirements for Water Quality Assessment are required due to documented phosphorus impairments in Beaver Meadow Brook, and Unnamed Tributary MA73-32. (see Appendix H, section II.)*

APPENDIX D

Endangered Species and Critical Habitats Protection Documents

United States Department of the Interior

FISH AND WILDLIFE SERVICE

New England Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5087
http://www.fws.gov/newengland

January 8, 2018

To Whom It May Concern:

This project was reviewed for the presence of federally listed or proposed, threatened or endangered species or critical habitat per instructions provided on the U.S. Fish and Wildlife Service's New England Field Office website:

http://www.fws.gov/newengland/EndangeredSpec-Consultation.htm (accessed January 2018)

Based on information currently available to us, no federally listed or proposed, threatened or endangered species or critical habitat under the jurisdiction of the U.S. Fish and Wildlife Service are known to occur in the project area(s). Preparation of a Biological Assessment or further consultation with us under section 7 of the Endangered Species Act is not required. No further Endangered Species Act coordination is necessary for a period of one year from the date of this letter, unless additional information on listed or proposed species becomes available.

Thank you for your cooperation. Please contact David Simmons of this office at 603-227-6425 if we can be of further assistance.

Sincerely yours,

Thomas R. Chapman
Supervisor
New England Field Office

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2018-SLI-2425
Event Code: 05E1NE00-2018-E-05633
Project Name: Stoughton MS4

July 18, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2018-SLI-2425

Event Code: 05E1NE00-2018-E-05633

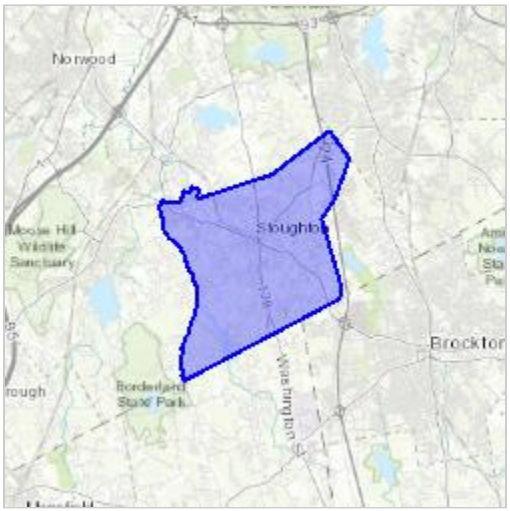
Project Name: Stoughton MS4

Project Type: ** OTHER **

Project Description: Stoughton Stormwater

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.118409409500146N71.10159863597366W



Counties: Bristol, MA | Norfolk, MA | Plymouth, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

APPENDIX E

MA MS4 General Permit – Appendix D – Historic Properties Documents

Appendix D
National Historic Preservation Act Guidance

Background

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of Federal "undertakings" on historic properties that are either listed on, or eligible for listing on, the National Register of Historic Places. The term federal "undertaking" is defined in the NHPA regulations to include a project, activity, or program of a federal agency including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license or approval. See 36 CFR 800.16(y). Historic properties are defined in the NHPA regulations to include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. This term includes artifacts, records, and remains that are related to and located within such properties. See 36 CFR 800.16(1).

EPA's issuance of a National Pollutant Discharge Elimination System (NPDES) General Permit is a federal undertaking within the meaning of the NHPA regulations and EPA has determined that the activities to be carried out under the general permit require review and consideration, in order to be in compliance with the federal historic preservation laws and regulations. Although individual submissions for authorization under the general permit do not constitute separate federal undertakings, the screening processes provides an appropriate site-specific means of addressing historic property issues in connection with EPA's issuance of the permit. To address any issues relating to historic properties in connection with the issuance of this permit, EPA has included a screening process for applicants to identify whether properties listed or eligible for listing on the National Register of Historic Places are within the path of their discharges or discharge-related activities (including treatment systems or any BMPs relating to the discharge or treatment process) covered by this permit.

Applicants seeking authorization under this general permit must comply with applicable, State, Tribal, and local laws concerning the protection of historic properties and places and may be required to coordinate with the State Historic Preservation Officer (SHPO) and/or Tribal Historic Preservation Officer (THPO) and others regarding effects of their discharges on historic properties.

Activities with No Potential to Have an Effect on Historic Properties

A determination that a federal undertaking has no potential to have an effect on historic properties fulfills an agency's obligations under NHPA. EPA has reason to believe that the vast majority of activities authorized under this general permit will have no potential effects on historic properties. This permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility. EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA's issuance of this general permit authorizes discharges of such constituents, confined to existing channels, outfalls or natural drainage areas, the permitting action does not have the potential to cause effects on historical properties.

In addition, the overwhelming majority of sources covered under this permit will be facilities that are seeking renewal of previous permit authorization. These existing dischargers should have already addressed NHPA issues in the previous general permit as they were required to certify that they were either not affecting historic properties or they had obtained written agreement from

the applicable SHPO or THPO regarding methods of mitigating potential impacts. To the extent this permit authorizes renewal of prior coverage without relevant changes in operations the discharge has no potential to have an effect on historic properties.

Activities with Potential to Have an Effect on Historic Properties

EPA believes this permit may have some potential to have an effect on historic properties the applicant undertakes the construction and/or installation of control measures that involve subsurface disturbance that involves less than 1 acre of land. (Ground disturbances of 1 acre or more require coverage under the Construction General Permit.) Where there is disturbance of land through the construction and/or installation of control measures, there is a possibility that artifacts, records, or remains associated with historic properties could be impacted. Therefore, if the applicant is establishing new or altering existing control measures to manage their discharge that will involve subsurface ground disturbance of less than 1 acre, they will need to ensure (1) that historic properties will not be impacted by their activities or (2) that they are in compliance with a written agreement with the SHPO, THPO, or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Examples of Control Measures Which Involve Subsurface Disturbance

The type of control measures that are presumptively expected to cause subsurface ground disturbance include:

- Dikes
- Berms
- Catch basins, drainage inlets
- Ponds, bioretention areas
- Ditches, trenches, channels, swales
- Culverts, pipes
- Land manipulation; contouring, sloping, and grading
- Perimeter Drains
- Installation of manufactured treatment devices

EPA cautions applicants that this list is non-inclusive. Other control measures that involve earth disturbing activities that are not on this list must also be examined for the potential to affect historic properties.

Certification

Upon completion of this screening process the applicant shall certify eligibility for this permit using one of the following criteria on their Notice of Intent for permit coverage:

> **Criterion A**: The discharges do not have the potential to cause effects on historic properties.

Criterion B: A historic survey was conducted. The survey concluded that no historic properties are present. Discharges do not have the potential to cause effects on historic properties.

Criterion C: The discharges and discharge related activities have the potential to have an effect on historic properties, and the applicant has obtained and is in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (TPHO), or other tribal representative that outlines measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties.

Authorization under the general permit is available only if the applicant certifies and documents permit eligibility using one of the eligibility criteria listed above. Small MS4s that cannot meet any of the eligibility criteria in above must apply for an individual permit.

Screening Process

Applicants or their consultant need to answer the questions and follow the appropriate procedures below to assist EPA in compliance with 36 CFR 800.

Question 1: Is the facility an existing facility authorized by the previous permit or a new facility and the applicant is not undertaking any activity involving subsurface land disturbance less than an acre?

YES - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion A on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

NO- Go to Question 2.

Question 2: Is the property listed in the National Register of Historic Places or have prior surveys or disturbances revealed the existence of a historic property or artifacts?

NO - The applicant should certify that fact in writing and file the statement with the EPA. This certification must be maintained as part of the records associated with the permit.
The applicant should certify eligibility for this permit using Criterion B on their Notice of Intent for permit coverage. The applicant does not need to contact the state Historic Commission. Based on that statement, EPA will document that the project has "no potential to cause effects" (36 CFR 800.3(a)(1)). There are no further obligations under the Section 106 regulations.

YES - The applicant or their consultant should prepare a complete information submittal to the SHPO. The submittal consists of:

- Completed Project Notification Form- forms available at http://www.sec.state.ma.us/mhc/mhcform/formidx.htm;

- USGS map section with the actual project boundaries clearly indicated; and
- Scaled project plans showing existing and proposed conditions.

(1) Please note that the SHPO does not accept email for review. Please mail a paper copy of your submittal (Certified Mail, Return Receipt Requested) or deliver a paper copy of your submittal (and obtain a receipt) to:

State Historic Preservation Officer
Massachusetts Historical Commission
220 Morrissey Blvd.
Boston MA 02125.

(2) Provide a copy of your submittal and the proof of MHC delivery showing the date MHC received your submittal to:

NPDES Permit Branch Chief
US EPA Region 1 (OEP06-1)
5 Post Office Square, Suite 100
Boston MA 02109-3912.

The SHPO will comment within thirty (30) days of receipt of complete submittals, and may ask for additional information. Consultation, as appropriate, will include EPA, the SHPO and other consulting parties (which includes the applicant). The steps in the federal regulations (36 CFR 800.2 to 800.6, etc.) will proceed as necessary to conclude the Section 106 review for the undertaking. **The applicant should certify eligibility for this permit using Criterion C on their Notice of Intent for permit coverage.**

APPENDIX F

New or Increased Discharges

There has been no new or increased discharges recorded in the Town of Stoughton.

New or Increased Discharges Stoughton, MA					
Location	Description	Proposed Use	Area	Contributing Area to MS4	BMP
Example St	Housing Community	Residence	27 acres	9 acres	Stormceptor unit and detention pond

**Example of what would be written for a new or increased discharge

APPENDIX G

SSO Inventory

Sanitary Sewer Overflow (SSO) Inventory

Stoughton, MA

Location	Discharge Location	Is Discharge Entering MS4? (Y/N)	Date/Time of SSO Occurance	Estimated Volume of SSO Occurance	Known/Suspected Cause	Mitigation Measures Completed	Mitigation Implementation Date	Mitigation Measures Planned	Mitigation Implementation Schedule
Example St	Enters into Woods Pond	Yes	August 4, 2016 9:00 AM - August 5, 2016 3:00 PM	1,200 gallons	Illicit resident connection	Illicit connection removed	August 8, 2016		
175 Campanelli Parkway	Ground surface (no release to surface water)	No	April 18, 2023 2:40 PM- April 18, 2023 5:00 PM	1,500 gallons	200 Shuman Avenue by-passed their temporary E-one pump/septic system due to pump failure	Pump failure was resolved.	April 18, 2023		

**Example of what would be written for a new or increased discharge

APPENDIX H

Current Stormwater Bylaw

Chapter 159

STORMWATER MANAGEMENT

GENERAL REFERENCES

Groundwater protection -- See Ch. 107.

Hazardous waste -- See Ch. 113.

Streets and sidewalks -- See Ch. 162.

Water -- See Ch. 188.

Wetlands protection -- See Ch. 191.

Zoning -- See Ch. 191.

Conservation Commission -- See Ch. 287.

§ 159-1. Objectives.

A. Increased and contaminated stormwater runoff is a major cause of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; and flooding.

B. Regulation of illicit connections and discharges to the municipal storm drain system is necessary for the protection of Stoughton's water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment.

C. The harmful impacts of soil erosion and sedimentation are the impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; flooding; and overloading or clogging of municipal catch basins and storm drainage systems.

D. Increased and contaminated stormwater runoff associated with developed land uses and the accompanying increase in impervious surface are major causes of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater.

E. The objectives of this bylaw are:

(1) To prevent pollutants from entering Stoughton's municipal separate storm sewer system (MS4);

(2) To prohibit illicit connections and unauthorized discharges to the MS4;

(3) To require the removal of all such illicit connections;

(4) To comply with state and federal statutes and regulations relating to stormwater discharges; and

(5) To establish the legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement;

(6) To require practices that eliminate soil erosion and sedimentation and control the volume and rate of stormwater runoff resulting from land disturbance activities;

(7) To promote infiltration and the recharge of groundwater;

(8) To ensure that soil erosion and sedimentation control measures and stormwater runoff control practices are incorporated into the site planning and design process and are implemented and maintained;

(9) To require practices to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(10) To require practices to control the flow of stormwater from new and redeveloped sites into the Stoughton storm drainage system in order to prevent flooding and erosion;

(11) To protect groundwater and surface water from degradation;

(12) To ensure adequate long-term operation and maintenance of structural stormwater best management practices so that they work as designed.

§ 159-2. Definitions.

For the purposes of this bylaw, the following shall mean:

ABUTTER — The owner(s) of land abutting the activity.

AGRICULTURE — The normal maintenance or improvement of land in agricultural or aquacultural use, as defined by the Massachusetts Wetlands Protection Act and its implementing regulations.

ALTERATION OF DRAINAGE CHARACTERISTICS — Any activity on an area of land that changes the water quality, force, direction, timing or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area.

APPLICANT — Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision, of the commonwealth or the federal government to the extent permitted by law, requesting a soil erosion and sediment control permit for proposed land-disturbance activity.

AUTHORIZED ENFORCEMENT AGENCY — The Stoughton Board of Selectmen, acting as Drain Commissioners (hereafter the Board), its employees or agents designated to enforce this bylaw.

BEST MANAGEMENT PRACTICE (BMP) — An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) — A certified specialist in soil erosion and sediment control. This certification program, sponsored by the Soil and Water Conservation Society in cooperation with the American Society of Agronomy, provides the public with evidence of professional qualifications.

CLEAN WATER ACT — The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

CLEARING — Any activity that removes the vegetative surface cover.

CONSTRUCTION AND WASTE MATERIALS — Excess or discarded building or site materials, including but not limited to concrete truck washout, chemicals, litter and sanitary waste, at a construction site that may adversely impact water quality.

DEVELOPMENT — The modification of land to accommodate a new use or expansion of use, usually involving construction.

DISCHARGE OF POLLUTANTS — The addition from any source of any pollutant or combination of pollutants into the municipal storm drain system or into the waters of the United States or commonwealth from any source.

DISTURBANCE OF LAND — Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material.

EROSION — The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

EROSION AND SEDIMENTATION CONTROL PLAN — A document containing narrative, drawings and details developed by a qualified professional engineer (PE) or a certified professional in erosion and sediment control (CPESC) which includes best management practices or equivalent measures designed to control surface runoff, erosion and sedimentation during preconstruction and construction-related land disturbance activities.

ESTIMATED HABITAT OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS — Habitats delineated for state-protected rare wildlife and certified vernal pools for use with the Wetlands Protection Act Regulations (310 CMR 10.00) and the Forest Cutting Practices Act Regulations (304 CMR 11.00).

GROUNDWATER — Water beneath the surface of the ground.

ILLICIT CONNECTION — A surface or subsurface drain or conveyance which allows an illicit discharge into the municipal storm drain system,

including without limitation sewage, process wastewater, or wash water, and any connections from indoor drains, sinks, or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of this bylaw.

ILLICIT DISCHARGE — Direct or indirect discharge to the municipal storm drain system that is not composed entirely of stormwater, except as exempted in § 157-7. The term does not include a discharge in compliance with an NPDES Storm Water Discharge Permit or a surface water discharge permit, or resulting from fire-fighting activities exempted pursuant to § 159-7D of this bylaw.

IMPERVIOUS SURFACE — Any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious surface includes without limitation roads, paved parking lots, sidewalks, and rooftops.

LAND-DISTURBING ACTIVITY — Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material.

MASSACHUSETTS ENDANGERED SPECIES ACT — MGL c. 131A and its implementing regulations at 321 CMR 10.00 which prohibit the taking of any rare plant or animal species listed as endangered, threatened, or of special concern.

MASSACHUSETTS STORMWATER MANAGEMENT POLICY — The policy issued by the Department of Environmental Protection, and as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act MGL c. 131, § 40, and Massachusetts Clean Waters Act MGL c. 21, §§ 23 through 56. The policy addresses stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OR MUNICIPAL STORM DRAIN SYSTEM — The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Stoughton.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMIT — A permit issued by United States Environmental Protection Agency or jointly with the state that authorizes the discharge of pollutants to waters of the United States.

NON-STORMWATER DISCHARGE — Discharge to the municipal storm drain system not composed entirely of stormwater.

OPERATION AND MAINTENANCE PLAN — A plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to insure that it continues to function as designed.

OUTFALL — The point at which stormwater flows out from a point source discernible, confined and discrete conveyance into waters of the commonwealth.

OUTSTANDING RESOURCE WATERS (ORWs) — Waters designated by the Massachusetts Department of Environmental Protection as ORWs. These waters have exceptional sociologic, recreational, ecological and/or aesthetic values and are subject to more stringent requirements under both the Massachusetts Water Quality Standards (314 CMR 4.00)[1] and the Massachusetts Stormwater Management Standards. ORWs include vernal pools certified by the Natural Heritage Program of the Massachusetts Department of Fisheries and Wildlife and Environmental Law Enforcement, all Class A designated public water supplies with their bordering vegetated wetlands, and other waters specifically designated.

OWNER — A person with a legal or equitable interest in property.

PERSON — An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

POINT SOURCE — Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

POLLUTANT — Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works or waters of the commonwealth. Pollutants shall include without limitation:

A. Paints, varnishes, and solvents;

B. Oil and other automotive fluids;

C. Nonhazardous liquid and solid wastes and yard wastes;

D. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, accumulations and floatables;

E. Pesticides, herbicides, and fertilizers;

F. Hazardous materials and wastes; sewage, fecal coliform and pathogens;

G. Dissolved and particulate metals;

H. Animal wastes;

I. Rock, sand, salt, soils;

---

1. Editor's Note: The Massachusetts Surface Water Quality Standards.

J. Construction wastes and residues; and

K. Any noxious or offensive matter of any kind.

PRECONSTRUCTION — All activity in preparation for construction.

PRIORITY HABITAT OF RARE SPECIES — Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.

PROCESS WASTEWATER — Water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

RECHARGE — The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

REDEVELOPMENT — Development, rehabilitation, expansion, demolition or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.

RUNOFF — Rainfall, snowmelt, or irrigation water flowing over the ground surface.

SEDIMENT — Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

SEDIMENTATION — The process or act of deposition of sediment.

SLOPE — The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance.

SOIL — Any earth, sand, rock, gravel, or similar material.

STABILIZATION — The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STORMWATER — Stormwater runoff, snowmelt runoff, and surface water runoff and drainage.

STORMWATER MANAGEMENT PLAN — A plan required as part of the application for a Stormwater Management Permit. See § 159-9.

STRIP — Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, and storage or removal of topsoil.

SURFACE WATER DISCHARGE PERMIT — A permit issued by the Department of Environmental Protection (DEP) pursuant to 314 CMR 3.00 that authorizes the discharge of pollutants to waters of the commonwealth of Massachusetts.

TOXIC OR HAZARDOUS MATERIAL OR WASTE — Any material, which because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately

or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as toxic or hazardous under MGL c. 21C and c. 21E and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

TSS — Total suspended solids.

VERNAL POOLS — Temporary bodies of freshwater which provide critical habitat for a number of vertebrate and invertebrate wildlife species.

WASTEWATER — Any sanitary waste, sludge, or septic tank or cesspool overflow, and water that during manufacturing, cleaning or processing comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product or waste product.

WATERCOURSE — A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

WATERS OF THE COMMONWEALTH — All waters within the jurisdiction of the commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, appropriational waters, and groundwater.

WETLAND RESOURCE AREA — Areas specified in the Massachusetts Wetlands Protection Act MGL c. 131, § 40, and in the Town of Stoughton Wetlands Protection Bylaw.

WETLANDS — Tidal and nontidal areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water-based) environments, including freshwater marshes around ponds and channels (rivers and streams), brackish and salt marshes; common names include marshes, swamps and bogs.

§ 159-3. Authority.

This bylaw is adopted under the authority granted by the Home Rule Amendment of the Massachusetts Constitution and the Home Rule Procedures Act, and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34.

§ 159-4. Responsibility for administration.

The Board shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to employees or agents of the Board.

§ 159-5. (Reserved)

§ 159-6. Regulations.

The Board may promulgate rules and regulations to effectuate the purposes of this bylaw. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this bylaw.

§ 159-7. Discharges to the municipal storm drain system.

A. Applicability. This bylaw shall apply to flows entering the municipally owned storm drainage system.

B. Prohibited activities.

(1) Illicit discharges. No person shall dump, discharge, cause or allow to be discharged any pollutant or non-stormwater discharge into the municipal separate storm sewer system (MS4), into a watercourse, or into the waters of the commonwealth.

(2) Illicit connections. No person shall construct, use, allow, maintain or continue any illicit connection to the municipal storm drain system, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

(3) Obstruction of municipal storm drain system. No person shall obstruct or interfere with the normal flow of stormwater into or out of the municipal storm drain system without prior written approval from the Board.

C. Exemptions.

(1) Discharge or flow resulting from fire-fighting activities.

(2) The following non-stormwater discharges or flows are exempt from the prohibition of non-stormwaters provided that the source is not a significant contributor of a pollutant to the municipal storm drain system:

(a) Waterline flushing;

(b) Flow from potable water sources;

(c) Springs;

(d) Natural flow from riparian habitats and wetlands;

(e) Diverted stream flow;

(f) Rising groundwater;

(g) Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(20), or uncontaminated pumped groundwater;

(h) Water from exterior foundation drains, footing drains (not including active groundwater dewatering systems), crawl space pumps, or air-conditioning condensation;

(i) Discharge from landscape irrigation or lawn watering;

(j) Water from individual residential car washing;

(k) Discharge from dechlorinated swimming pool water (less than one ppm chlorine), provided the water is allowed to stand for one week prior to draining and the pool is drained in such a way as not to cause a nuisance;

(l) Discharge from street sweeping;

(m) Dye testing, provided verbal notification is given to the Board prior to the time of the test;

(n) Non-stormwater discharge permitted under an NPDES permit or a surface water discharge permit, waiver, or waste discharge order administered under the authority of the United States Environmental Protection Agency or the Department of Environmental Protection, provided that the discharge is in full compliance with the requirements of the permit, waiver, or order and applicable laws and regulations; and

(o) Discharge for which advanced written approval is received from the Board as necessary to protect public health, safety, welfare or the environment.

D. Emergency suspension of storm drainage system access. The Board may suspend municipal storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened discharge of pollutants that presents imminent risk of harm to the public health, safety, welfare or the environment. In the event any person fails to comply with an emergency suspension order, the authorized enforcement agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare or the environment.

E. Notification of spills. Notwithstanding other requirements of local, state or federal law, as soon as a person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of or suspects a release of materials at that facility or operation resulting in or which may result in discharge of pollutants to the municipal drainage system or waters of the commonwealth, the person shall take all necessary steps to ensure containment and cleanup of the release. In the event of a release of oil or hazardous materials, the person shall immediately notify the municipal Fire and Police Departments. In the event of a release of nonhazardous material, the reporting person shall notify the authorized

enforcement agency no later than the next business day. The reporting person shall provide to the authorized enforcement agency written confirmation of all telephone, facsimile or in-person notifications within three business days thereafter. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

F. Transitional provisions. Residential property owners shall have 30 days from the effective date of the bylaw to comply with its provisions, provided good cause is shown for the failure to comply with the bylaw during that period.

§ 159-8. Stormwater management and land disturbance.

A. Applicability.

(1) This bylaw shall apply to all activities that result in disturbance of one or more acres of land that drains to the municipal separate storm sewer system.

(2) Except as authorized by the Board in a land disturbance permit or as otherwise provided in this bylaw, no person shall perform any activity that results in disturbance of an acre or more of land. Normal maintenance and improvement of land in agricultural or aquacultural use, as defined by the Wetlands Protection Act regulation 310 CMR 10.4, are exempt. In addition, as authorized in the Phase II small MS4 general permit for Massachusetts, stormwater discharges resulting from the above activities that are subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an order of conditions issued by the Conservation Commission are exempt from compliance with this bylaw.

B. Responsibility for administration.

(1) The Board shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to its employees or agents.

(2) Waiver. The Board may waive strict compliance with any requirement of this bylaw or the rules and regulations promulgated hereunder, where:

(a) Such action is allowed by federal, state and local statutes and/or regulations;

(b) Is in the public interest; and

(c) Is not inconsistent with the purpose and intent of this bylaw.

(3) Rules and regulations. The Board may adopt and periodically amend rules and regulations to effectuate the purposes of this bylaw. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this bylaw.

C. Permits and procedures.

(1) Application. A completed application for a land disturbance permit shall be filed with the Board. A permit must be obtained prior to the commencement of land-disturbing activity that may result in the disturbance of an area of one acre or more. The land disturbance permit application package shall follow the procedures outlined in the Site Plan Review Bylaw (available at the Stoughton Engineering Department).

(2) Entry. Filing an application for a permit grants the Board or its agent permission to enter the site to verify the information in the application and to inspect for compliance with permit conditions.

(3) Other boards. The Board shall notify the Town Clerk of receipt of the application and shall give one copy of the application package to each of the other relevant boards. The submission of a site plan review application shall be considered as a valid submission under this bylaw.

(4) Public hearing. The public hearing required in the Site Plan Review Bylaw shall be considered sufficient satisfaction of this requirement. In the event the proposed project does not require site plan review, the Board shall hold a public hearing within 21 days of the receipt of a complete application and take final action within 21 days from the time of closure of the public hearing, unless such time is extended by agreement between the applicant and the Board. Notice of the public hearing shall be given by publication and by first-class mailing to abutters at least seven days prior to the hearing. The Board shall make the application available for inspection by the public during business hours at the Town Hall, 10 Pearl Street.

(5) Information requests. The applicant shall submit all additional information requested by the Board to issue a decision on the application.

(6) Action by the Board. The Board may:

(a) Approve the land disturbance permit application and issue a permit if it finds that the proposed plan will protect water resources and meets the objectives and requirements of this bylaw;

(b) Approve the land disturbance permit application and issue a permit with conditions, modifications or restrictions that

the Board determines are required to ensure that the project will protect water resources and meets the objectives and requirements of this bylaw;

(c) Disapprove the land disturbance permit application and deny the permit if it finds that the proposed plan will not protect water resources or fails to meet the objectives and requirements of this bylaw.

(7) Failure of the Board to take final action. Failure of the Board to take final action upon an application within the time specified above shall be deemed to be approval of said application. Upon certification by the Town Clerk that the allowed time has passed without the Board action, the land disturbance permit shall be issued by the Board.

(8) Fee structure. Each application must be accompanied by the appropriate application fee as established by the Board. Applicants shall pay review fees as determined by the Board sufficient to cover any expenses connected with the public hearing and review of the land disturbance permit application before the review process commences. The Board is authorized to retain a registered professional engineer or other professional consultant to advise the Board on any or all aspects of the application.

(9) Project changes. The permittee, or their agent, must notify the Board in writing of any change or alteration of a land-disturbing activity authorized in a land disturbance permit before any change or alteration occurs. If the Board determines that the change or alteration is significant, based on the design requirements listed in § 159-8C(10)(b) and accepted construction practices, the Board may require that an amended land disturbance permit application be filed and a public hearing held. If any change or alteration from the land disturbance permit occurs during any land-disturbing activities, the Board may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

(10) Erosion and sediment control plan.

(a) The erosion and sediment control plan shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Subsection C(10)(b) below.

(b) The design requirements of the erosion and sediment control plan are:

[1] Minimize total area of disturbance;

[2] Sequence activities to minimize simultaneous areas of disturbance;

[3] Minimize peak rate of runoff in accordance with the Massachusetts Stormwater Policy;

[4] Minimize soil erosion and control sedimentation during construction, provided that prevention of erosion is preferred over sedimentation control;

[5] Divert uncontaminated water around disturbed areas;

[6] Maximize groundwater recharge;

[7] Install and maintain all erosion and sediment control measures in accordance with the manufacturer's specifications and good engineering practices;

[8] Prevent off-site transport of sediment;

[9] Protect and manage on- and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project); comply with applicable federal, state and local laws and regulations, including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control;

[10] Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage and Endangered Species Program as endangered, threatened or of special concern, estimated habitats of rare wildlife and certified vernal pools, and priority habitats of rare species from the proposed activities;

[11] Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site;

[12] Properly manage on-site construction and waste materials; and

[13] Prevent off-site vehicle tracking of sediments.

(11) Erosion and sediment control plan content. The plan shall contain the information required by the Site Plan Review Bylaw.

(12) Inspection and site supervision.

(a) Preconstruction meeting. Prior to starting clearing, excavation, construction, or land-disturbing activity the applicant, the applicant's technical representative, the general contractor or any other person with authority to make changes to the project shall meet with the Board to review the permitted plans and their implementation.

(b) Board inspection. The Board or its designated agent shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the land disturbance permit as approved. The permit and associated plans for grading, stripping, excavating, and filling work, bearing the signature of approval of the Board, shall be maintained at the site during the progress of the work. In order to obtain inspections, the permittee shall notify the Board at least two working days before each of the following events:

[1] Erosion and sediment control measures are in place and stabilized;

[2] Site clearing has been substantially completed;

[3] Rough grading has been substantially completed;

[4] Final grading has been substantially completed;

[5] Close of the construction season; and

[6] Final landscaping (permanent stabilization) and project final completion.

(c) Permittee inspections. The permittee or his/her agent shall conduct and document inspections of all control measures no less than weekly, or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the control plan and the need for maintenance or additional control measures. The permittee or his/her agent shall submit monthly reports to the Board or designated agent in a format approved by the Board.

(d) Access permission. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Board, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under this bylaw and may make or cause to be made such examinations, surveys or sampling as the Board deems reasonably necessary to determine compliance with the permit.

(13) Surety. the Board may require the permittee to post, before the start of land disturbance activity, a surety bond, irrevocable letter of credit, cash, or other acceptable security. The form of the bond shall be approved by Town Counsel and be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit, but the bond may not be fully released until the Board has received the final report as required by § 159-8C(14) and issued a certificate of completion.

(14) Final reports. Upon completion of the work, the permittee shall submit a report (including certified as-built construction plans) from a professional engineer (PE), surveyor, or certified professional in erosion and sediment control (CPESC), certifying that all erosion and sediment control devices, and approved changes and modifications, have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter.

(15) Certificate of completion. The issuing authority will issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with this bylaw.

§ 159-9. Postconstruction stormwater management of new developments and redevelopments.

A. Applicability. No person may undertake a construction activity, including clearing, grading and excavation, that results in a land disturbance that will disturb equal to or greater than one acre of land or will disturb less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one acre of land draining to the Stoughton municipal separate storm sewer system without a permit from the Board. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity or the original purpose of the site.

B. Exemptions.

(1) Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.4;

(2) Maintenance of existing landscaping, gardens or lawn areas associated with a single-family dwelling;

(3) The construction of fencing that will not substantially alter existing terrain or drainage patterns;

(4) Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns;

(5) As authorized in the Phase II small MS4 general permit for Massachusetts, stormwater discharges resulting from the activities identified in § 159-8A that are wholly subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an order of conditions issued by the Conservation Commission are exempt from compliance with this bylaw.

C. Permits and procedure.

(1) The application for a stormwater management permit shall consist of submittal of a stormwater management plan to the Board. This stormwater management plan shall contain sufficient information for the Board to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the applicant for reducing adverse impacts from stormwater. The plan shall be designed to meet the Massachusetts Stormwater Management Standards as set forth in Subsection C(2) of this section and DEP Stormwater Management Handbook Volumes I and II. The stormwater management plan shall fully describe the project in drawings, and narrative. It shall represent as-built conditions on the site being permitted and shall contain the following information:

(a) A locus map;

(b) The existing zoning and land use at the site;

(c) The location(s) of existing easements;

(d) The location of existing utilities;

(e) The site's final topography with contours at two-foot intervals;

(f) The site hydrology;

(g) A description and delineation of existing stormwater conveyances, impoundments, and wetlands on and adjacent to the site or into which stormwater flows;

(h) A delineation of one-hundred-year floodplains, if applicable;

(i) The existing vegetation and ground surfaces with runoff coefficients;

(j) A drainage area map showing postconstruction watershed boundaries, drainage area and stormwater flow paths;

(k) A description and drawings of all components of the drainage system, including:

[1] Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization;

[2] All measures for the detention, retention or infiltration of water;

[3] All measures for the protection of water quality;

[4] The structural details for all components of the proposed drainage systems and stormwater management facilities;

[5] Notes on drawings specifying materials used, construction specifications, and typicals.

(l) Location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable;

(m) A maintenance schedule for the on-site drainage facilities;

(n) Any other information requested by the Board.

(2) Standards.

(a) Projects shall meet the standards of the Massachusetts Stormwater Management Policy, which currently are as follows:

[1] No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the commonwealth.

[2] Stormwater management systems must be designed so that postdevelopment peak discharge rates do not exceed predevelopment peak discharge rates.

[3] Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the postdevelopment site should approximate the annual recharge rate from the predevelopment or existing site conditions, based on soil types.

[4] For new development, stormwater management systems must be designed to remove 80% of the average annual load (postdevelopment conditions) of total suspended solids (TSS). It is presumed that this standard is met when:

[a] Suitable nonstructural practices for source control and pollution prevention are implemented;

[b] Stormwater management best management practices (BMPs) are sized to capture the prescribed runoff volume; and

[c] Stormwater management BMPs are maintained as designed.

[5] Stormwater discharges from areas with higher potential pollutant loads require the use of specific stormwater management BMPs (see Stormwater Management Volume I: Stormwater Policy Handbook). The use of infiltration practices without pretreatment is prohibited.

[6] Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas (see Stormwater Management Volume I: Stormwater Policy Handbook). Critical areas are outstanding resource waters (ORWs), shellfish beds, swimming beaches, cold-water fisheries and recharge areas for public water supplies.

[7] Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

[8] Erosion and sediment controls must be implemented to prevent impacts during disturbance and construction activities.

[9] All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

(b) When one or more of the standards cannot be met, an applicant may demonstrate that an equivalent level of environmental protection will be provided.

D. Operation and maintenance plans. An operation and maintenance plan (O&M plan) is required at the time of application for all projects. The maintenance plan shall be designed to ensure compliance with the permit, this bylaw and that the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, are met in all seasons and throughout the life of the system. The Board shall make the final decision of what maintenance option is appropriate in a given situation. The Board will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, the types of stormwater management structures, and potential need for ongoing maintenance activities when making this decision. The operation and maintenance plan shall remain on file with the Board, attached to the stormwater management plan, and shall be an ongoing requirement. The O&M Plan shall include:

(1) The name(s) of the owner(s) for all components of the system.

(2) Maintenance agreements that specify:

(a) The names and addresses of the person(s) responsible for operation and maintenance.

(b) The person(s) responsible for financing maintenance and emergency repairs.

(c) A maintenance schedule for all drainage structures, including swales and ponds.

(d) A list of easements with the purpose and location of each.

(e) The signature(s) of the owner(s).

(3) Stormwater management easement(s).

(a) Stormwater management easements shall be provided by the property owner(s) as necessary for:

[1] Access for facility inspections and maintenance.

[2] Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the one-hundred-year storm event.

[3] Direct maintenance access by heavy equipment to structures requiring regular cleanout.

(b) The purpose of each easement shall be specified in the maintenance agreement signed by the property owner.

(c) Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Board.

(d) Easements shall be recorded with the Norfolk County Registry of Deeds prior to issuance of a certificate of completion by the Board.

E. Changes to operation and maintenance plans.

(1) The owner(s) of the stormwater management system must notify the Board of changes in ownership or assignment of financial responsibility.

(2) The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of this bylaw by mutual agreement of the Board and the responsible parties. Amendments must be in writing and signed by all responsible parties. Responsible parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility.

F. Surety. The Board may require the permittee to post, before the start of land disturbance or construction activity, a surety bond, irrevocable

letter of credit, cash, or other acceptable security. The form of the bond shall be approved by Town Counsel and be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit, but the bond may not be fully released until the Board has received the final inspection report as required by § 159-8C(14) and issued a certificate of completion.

G. Inspections. The Board shall inspect the project site at the following stages:

(1) Initial site inspection: prior to approval of any plan.

(2) Erosion control inspection: to ensure erosion control practices are in accord with the filed plan.

(3) Bury inspection: prior to backfilling of any underground drainage or stormwater conveyance structures.

(4) Final inspection.

(a) After the stormwater management system has been constructed and before the surety has been released, the applicant must submit a record plan detailing the actual stormwater management system as installed. The Board shall inspect the system to confirm its as-built features. This inspector shall also evaluate the effectiveness of the system in an actual storm. If the inspector finds the system to be adequate he shall so report to the Board, which will issue a certificate of completion.

(b) If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the stormwater management plan, it shall be corrected by the permittee before the performance guarantee is released. If the permittee fails to act, the Town may use the surety bond to complete the work. Examples of inadequacy shall be limited to errors in the infiltrative capability, errors in the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges from basins.

H. Waivers.

(1) The Board may waive strict compliance with any requirement of this bylaw or the rules and regulations promulgated hereunder, where;

(a) Such action is allowed by federal, state and local statutes and/or regulations,

(b) Is in the public interest; and

(c) Is not inconsistent with the purpose and intent of this bylaw.

(2) Any applicant may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the bylaw does not further the purposes or objectives of this bylaw.

(3) All waiver requests shall be discussed and voted on at the public hearing for the project.

(4) If, in the Board's opinion, additional time or information is required for review of a waiver request, the Board may continue a hearing to a date certain announced at the meeting. In the event the applicant objects to a continuance or fails to provide requested information, the waiver request shall be denied.

I. Certificate of completion. The Board will issue a letter certifying completion upon receipt and approval of the final inspection reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with this bylaw.

J. Town acceptance of drainage and stormwater structures and systems. When a developer requests the Town to accept a drainage system, stormwater management system, and/or a detention basin for a subdivision of three or more housing units, or for a commercial/ industrial land development of one acre or larger, the Town shall have the option to refuse or accept it. If the Town accepts the basin or system, a contribution to the Stormwater Management Revolving Fund shall be made which shall be equal to $1,000 for each drainage/ stormwater management system and $2,500 for every acre or portion thereof in the detention basins to compensate the Town for ongoing maintenance. The minimum contribution for any system or basin, regardless of size, shall be $5,000.

§ 159-10. Enforcement.

The Board or an authorized agent of the Board shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief. If a person violates the provisions of this bylaw, regulations, permit, notice, or order issued thereunder, the Board may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders.

(1) The Board or an authorized agent of the Board may issue a written order to enforce the provisions of this bylaw or the regulations thereunder, which may include:

(a) Elimination of illicit connections or discharges to the MS4;

(b) Performance of monitoring, analyses, and reporting;

(c) That unlawful discharges, practices, or operations shall cease and desist; and

(d) Remediation of contamination in connection therewith.

(2) If the enforcing person determines that abatement or remediation of contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator.

(3) Within 30 days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the appropriations incurred by the Town, including administrative appropriations. The violator or property owner may file a written protest objecting to the amount or basis of appropriations with the Board within 30 days of receipt of the notification of the appropriations incurred. If the amount due is not received by the expiration of the time in which to file a protest or within 30 days following a decision of the Board affirming or reducing the appropriations, or from a final decision of a court of competent jurisdiction, the appropriations shall become a special assessment against the property owner and shall constitute a lien on the owner's property for the amount of said appropriations. Interest shall begin to accrue on any unpaid appropriations at the statutory rate provided in MGL c. 59, § 57, after the 31st day at which the appropriations first become due.

C. Criminal penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued thereunder shall be punished by a fine of not more than $100. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Noncriminal disposition. As an alternative to criminal prosecution, the Town of Stoughton may elect to utilize the noncriminal disposition procedure set forth in MGL c. 40, § 21D. The Board, or its authorized agent, shall be the enforcing person. The penalty for the first violation shall be $100. The penalty for the second violation shall be $200. The penalty for the third and subsequent violations shall be $300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

E. Entry to perform duties under this bylaw. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Board, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under this bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Board deems reasonably necessary.

F. Appeals. The decisions or orders of the Board shall be final. Further relief shall be to a court of competent jurisdiction.

G. Remedies not exclusive. The remedies listed in this bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

§ 159-11. Severability.

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence, or clause of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw.

APPENDIX I

2018 Annual Report Self Evaluation
Annual Evaluation for Years 1-5+

Year 1 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: May 1, 2018-June 30, 2019

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed.

Part I: Contact Information

Name of Municipality or Organization: Town of Stoughton

EPA NPDES Permit Number: MAR041063

Primary MS4 Program Manager Contact Information

Name: Marc J. Tisdelle, P.E. Title: Town Engineer

Street Address Line 1: Town Hall

Street Address Line 2: 10 Pearl Street, 2nd floor

City: Stoughton State: MA Zip Code: 02072

Email: mtisdelle@stoughton-ma.gov Phone Number: (781) 341-1300

Fax Number: (781) 341-1086

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://www.stoughton.org/sites/stoughtonma/files/uploads/stoughton_swmp_report_-_6-20-19_-_public_comment_signed.pdf

Date SWMP was Last Updated: Jun 28, 2019

If the SWMP is not available on the web please provide the physical address and an explanation of why it is not posted on the web:

Part II: Self Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4.

Impairment(s)

☒ Bacteria/Pathogens ☐ Chloride ☒ Nitrogen ☒ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State: ☐ Assabet River Phosphorus ☒ Bacteria and Pathogen ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State: ☐ Bacteria/Pathogens ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. ***By checking each box you are certifying that you have completed that permit requirement fully.*** *If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 1 Requirements

- ☒ Develop and begin public education and outreach program
- ☒ Identify and develop inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
  - ◉ The SSO inventory is attached to the email submission
  - ○ The SSO inventory can be found at the following website:
- ☒ Develop written IDDE plan including a procedure for screening and sampling outfalls
- ☒ IDDE ordinance complete
- ☒ Identify each outfall and interconnection discharging from MS4, classify into the relevant category, and priority rank each catchment for investigation
  - ◉ The priority ranking of outfalls/interconnections is attached to the email submission
  - ○ The priority ranking of outfalls/interconnections can be found at the following website:
- ☒ Construction/ Erosion and Sediment Control (ESC) ordinance complete
- ☒ Develop written procedures for site inspections and enforcement of sediment and erosion control measures
- ☒ Develop written procedures for site plan review
- ☒ Keep a log of catch basins cleaned or inspected
- ☒ Complete inspection of all stormwater treatment structures

Annual Requirements

- ☒ Annual opportunity for public participation in review and implementation of SWMP
- ☒ Comply with State Public Notice requirements
- ☒ Keep records relating to the permit available for 5 years and make available to the public
- ☒ Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- ☒ Annual training to employees involved in IDDE program
- ☒ All curbed roadways have been swept a minimum of one time per year

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Permittee or its agents disseminate educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- ☒ Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Distribute an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers
- ☒ Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

- ☒ Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

- ☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the nitrogen removal by the BMP consistent with Attachment 1 to Appendix H. Document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP in each each annual report

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distribute an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release and phosphorus-free fertilizers

☒ Distribute an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distribute an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increase street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents shall be tracked and the permittee shall estimate the phosphorus removal by the BMP consistent with Attachment 1 to Appendix H. Document the BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP in each each annual report

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule to target areas with potential for high pollutant loads

☒ Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Clean catch basins more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings

Use the box below to input additional details on any unchecked boxes above or any additional information you would like to share as part of your self assessment:

Structural BMPs will be tracked and estimates for nutrient removal developed in accordance with Attachment 1 to Appendix H in the future.

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

Yes ☐ No ☒

If yes, describe below, including any relevant impairments or TMDLs:

N/A

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed during the reporting period: 33

Below, report on the educational messages completed during the first year. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.

BMP: Pet Waste Management Message

Message Description and Distribution Method:

"Do your Doody for Clean Water" message from ThinkBlue on management of pet waste; social media post shared on the Stoughton Facebook page.

The Town is utilizing ThinkBlue's outreach campaign materials as part of its education and outreach efforts.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Bacteria/Pathogen impairment; 7,170 people reached

Message Date(s): June 7, 2019

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Fowl Water Campaign

Message Description and Distribution Method:

"Stormwater pollution is trash, oil, cigarette butts & dog waste" messaging in Think Blue MA's "Fowl Water" video and advertisement campaign on Facebook, Instagram and YouTube.

Targeted Audience: Residents

Responsible Department/Parties: Southeast Regional Services Group (SERSG)

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

18,213 people reached on Facebook/Instagram. 32,288 people reached on YouTube.

Message Date(s): June 23, 2019 - June 30, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Gas Station Pollution Message

Message Description and Distribution Method:

"Put a brake on stormwater runoff from gas stations" stormwater pollution awareness from Think Blue; social media post shared on the Stoughton Facebook page.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: SERSG

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): January 31, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Businesses, Institutions and Commercial Facilities-Specific Stormwater Website

Message Description and Distribution Method:

Maintained stormwater website with stormwater outreach materials; linked Neponset Stormwater Partnership website from the Town of Stoughton's stormwater web-page.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

1266 site visits and 5280 page views.

Message Date(s): Webpage activated May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Stormwater Brochures

Message Description and Distribution Method:

Stormwater pollution awareness through Brochures/Pamphlets.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): July 8, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Developers-Specific Stormwater Website

Message Description and Distribution Method:

Maintained stormwater website with developer-specific stormwater outreach materials; Distributed via Neponset Stormwater Partnership website with link from Town of Stoughton's stormwater webpage.

Targeted Audience: Developers (construction)

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

1266 site visits and 5280 page views.

Message Date(s): Webpage activated May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Ignore

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☐

If yes, describe why the change was made:

BMP: Industry-Specific Stormwater Website

Message Description and Distribution Method:

Maintained stormwater website with industry-specific stormwater outreach materials; Distributed via Neponset Stormwater Partnership website with link from Town of Stoughton's stormwater webpage.

Targeted Audience: Industrial facilities

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

1266 site visits and 5280 page views.

Message Date(s): Webpage activated May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Spring Messaging

Message Description and Distribution Method:

Encourages proper use and disposal of grass clippings, leaf litter (Nitrogen & Phosphorus), and slow-release fertilizers (Nitrogen); "Leave grass clippings to fertilize lawn naturally; Know before you mow!" social media post on Stoughton Facebook page and Twitter account; Printed and distributed informational cards to Library, Town Hall and the Council on Aging/Youth Commission.

Targeted Audience: Residents

Responsible Department/Parties: SERSG

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Nitrogen and Phosphorus impairments.

Message Date(s): March 18, 2019; May 22, 2019

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Pet Waste Information (one of two)

Message Description and Distribution Method:

Encourages proper management of pet waste (noting any ordinances); Educational fliers distributed at time of issuance or renewal of dog license.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Town Clerk and Neponset River Watershed Association

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Nitrogen, Phosphorus and Bacteria/Pathogens impairments.

1400 reached in Stoughton; estimated 81% of dog owners reached.

Message Date(s): Distributed to Town Clerks in January, 2019 and disseminated since

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Pet Waste Information (two of two)

Message Description and Distribution Method:

Encourages proper management of pet waste (noting any ordinances); Educational fliers distributed at time of issuance or renewal of dog license.

Targeted Audience: Residents

Responsible Department/Parties: Town Clerk and Neponset River Watershed Association

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Nitrogen, Phosphorus and Bacteria/Pathogens impairments.

1400 reached in Stoughton; estimated 81% of dog owners reached.

Message Date(s): Distributed to Town Clerks in January, 2019 and disseminated since

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Fall Messaging (one of two)

Message Description and Distribution Method:

Fall leaf waste campaign; "Don't Leaf Clean Water to Chance" social media campaign (Neponset River Watershed Association's Facebook and Twitter and Town's Facebook and Twitter) and paper flyer with local information on yard waste disposal options distributed at Town Hall and Town website.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Regionally, 2213 people reached on Facebook and 1031 reached through Twitter.

Message Date(s): October 2-31, 2018

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Fall Messaging (two of two)

Message Description and Distribution Method:

Fall leaf waste campaign; "Don't Leaf Clean Water to Chance" social media campaign (Neponset River Watershed Association's Facebook and Twitter and Town's Facebook and Twitter) and paper flyer with local information on yard waste disposal options distributed at Town Hall and Town website.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Regionally, 2213 people reached on Facebook and 1031 reached through Twitter.

Message Date(s): October 2-31, 2018

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Septic Tank Messaging

Message Description and Distribution Method:

Outreach to encouraged proper maintenance of septic tanks in catchments that discharge to waterbodies with bacteria impairments on Neponset Stormwater Partnership website.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute annual messaging in accordance with the Town’s Bacteria/Pathogens impairment.

Message Date(s): May 8, 2018 and on going

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: School Program

Message Description and Distribution Method:

Hands-on watershed education curriculum for 4th and 5th grade students over the course of two 60-minute lessons; take-home flyers provided; School curriculum; link to information from Town's stormwater web page.

Targeted Audience: Residents

Responsible Department/Parties: Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): September 2018 - June 2019 (school year)

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Household Hazardous Waste Collection Day

Message Description and Distribution Method:

Household hazardous waste collection day.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations, Engineering

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): May 6, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Ignore

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☐

If yes, describe why the change was made:

BMP: Ignore

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☐

If yes, describe why the change was made:

BMP: Ignore

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☐

If yes, describe why the change was made:

BMP: Ignore

Message Description and Distribution Method:

Targeted Audience:

Responsible Department/Parties:

Measurable Goal(s):

Message Date(s):

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☐

If yes, describe why the change was made:

BMP: Stoughton Stormwater Website with Notification System

Message Description and Distribution Method:

Town maintained Stoughton stormwater website with stormwater outreach materials including information on septic maintenance, fertilizers and leaves and grass clippings; Website now includes Town Resident Notification System for stormwater alerts on Town News section of the website.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): October 2017 and continuing

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Resident-Specific Stormwater Website

Message Description and Distribution Method:

Maintained stormwater website with stormwater outreach materials; Website includes a link to the Neponset Stormwater Partnership website.

Targeted Audience: Residents

Responsible Department/Parties: DPW Operations, Engineering, Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

1266 site visits and 5280 page views.

Message Date(s): Webpage activated May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Business, Institutions and Commercial Facilities Hotline

Message Description and Distribution Method:

Regional hotline to field questions and report stormwater problems.

Targeted Audience: Businesses, institutions and commercial facilities

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): Live May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Developers Hotline

Message Description and Distribution Method:

Regional hotline to field questions and report stormwater problems.

Targeted Audience: Developers (construction)

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): Live May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Industrial Facilities Hotline

Message Description and Distribution Method:

Regional hotline to field questions and report stormwater problems.

Targeted Audience: Industrial facilities

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): Live May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Resident Hotline

Message Description and Distribution Method:

Regional hotline to field questions and report stormwater problems.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): Live May 1, 2018 and ongoing since

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Regional Mailing #1

Message Description and Distribution Method:

Regional Educational Mailing #1 (highlighting general stormwater awareness, a storm drain mural project, stormwater hotline information and pet waste/fertilizer information); Postcard sent to all residential addresses.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years)

100% of households reached.

Message Date(s): July 9, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: Regional Mailing #2

Message Description and Distribution Method:

Regional Educational Mailing #2 (newsletter highlighting stormwater awareness, fertilizers/lawn care/ pollution/pet waste/household waste/dumpsters and stormwater hotline); Mailed to all addresses.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years)

100% of households reached.

Message Date(s): July 8, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

BMP: ThinkBlue Duckie Video #1

Message Description and Distribution Method:

ThinkBlue "Duckie" Video #1 distributed via Facebook and YouTube and on ThinkBlue MA website.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): May 31-June 25 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

This outreach done by ThinkBlue on behalf of Stoughton has added to the outreach included in the NOI.

BMP: ThinkBlue Duckie Video #2

Message Description and Distribution Method:

ThinkBlue "Duckie" Video #2 distributed via Facebook and YouTube and on ThinkBlue MA website.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

Message Date(s): June 24-July 5, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☒ No ☐

If yes, describe why the change was made:

This outreach done by ThinkBlue on behalf of Stoughton has added to the outreach included in the NOI.

BMP: Water Quality Forum

Message Description and Distribution Method:

Regional Water Quality Forum about data collected in the Neponset River Watershed and public presentation.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute at least two educational messages within the permit term (5 years).

25 people attended from region.

Message Date(s): February 7, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

This outreach done by the Neponset River Watershed Association on behalf of Stoughton has added to the outreach included in the NOI.

BMP: Fall Messaging on Social Media

Message Description and Distribution Method:

Social media post shared on the Stoughton Facebook page in the Fall encouraging the proper disposal of leaf litter.

Targeted Audience: Residents

Responsible Department/Parties: Neponset River Watershed Association

Measurable Goal(s):

Distribute annual messaging in accordance with the Town's Nitrogen, Phosphorus and Bacteria/Pathogens impairments.

Message Date(s): October 26, 2018

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ☐ No ☒

If yes, describe why the change was made:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) during the reporting period:

Annual review of the Stormwater Management Plan; posting of plan on website and annual public comment.

Was this opportunity different than what was proposed in your NOI? Yes ☐ No ☒

Describe any other public involvement or participation opportunities conducted during the reporting period:

MA Statewide Municipal Stormwater Coalition (Statewide Coalition). Think Blue MA public awareness campaign and regional collaboration on stormwater at the following public events: Metrowest/495 Partnership, Metrowest stormwater roundtable hosted by MWRC of MAPC, MMA meeting & trade show, New England Water Environment Association annual conference, MACC annual conference, MA congress of Lake and Pond associations annual workshop, New England public works association spring conference, Ecotarium Earth Day, New England Water Environment Association spring meeting.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Below, report on the number of SSOs identified in the MS4 system and removed during this reporting period.

Number of SSOs identified: 2

Number of SSOs removed: 2

Below, report on the total number of SSOs identified in the MS4 system and removed to date. At a minimum, report SSOs identified since 2013.

Total number of SSOs identified: 11

Total number of SSOs removed: 11

MS4 System Mapping

Describe the status of your MS4 map, including any progress made during the reporting period:

Previously, Stoughton has mapped: outfalls and receiving waters, interconnections with other MS4s and other storm sewer systems, municipality-owned stormwater treatment structures, water bodies identified by name and indication of all use impairments as identified on the most recent EPA-approved MA Integrated List of Waster report and initial catchment delineations. During this reporting period, Stoughton contracted a consulting company to map and inspect BMP sites, noting BMP type and condition, and inspect town-owned facilities for potential contributions to illicit stormwater discharge. Additionally, the consulting firm screened 65 MS4 outfalls, or approximately 25% of all outfalls, during dry weather conditions and recorded information including outfall diameter, material, condition, storm sewer connectivity and receiving water, and flow and sediment descriptions. For outfalls that were flowing, temperature, dissolved oxygen, salinity, specific conductance, pH, biological oxygen demand, total Phosphorus, total residual Chlorine, Ammonia as Nitrogen, Surfactants and E. Coli were tested.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses.

- (●) The outfall screening data is attached to the email submission
- ( ) The outfall screening data can be found at the following website:

Below, report on the number of outfalls/interconnections screened during this reporting period.

Number of outfalls screened: 65

Below, report on the percent of total outfalls/ interconnections screened to date.

Percent of total outfalls screened: 25

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- (●) The catchment investigation data is attached to the email submission
- ( ) The catchment investigation data can be found at the following website:

Below, report on the number of catchment investigations completed during this reporting period.

Number of catchment investigations completed this reporting period: 0

Below, report on the percent of catchments investigated to date.

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

Flowing outfalls were sampled during dry weather IDDE investigations and will be further investigated in the future. No catchment investigations have been completed at this time.

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- (•) The illicit discharge removal report is attached to the email submission
- ( ) The illicit discharge removal report can be found at the following website:

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed during this reporting period.

Number of illicit discharges identified: 1

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 [UNITS]

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed since the effective date of the permit.

Total number of illicit discharges identified: 1

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

One illicit discharges was identified this period and a discharge report is attached documenting the investigations undertaken to date.

Employee Training

Describe the frequency and type of employee training conducted during the reporting period:

Annual stormwater training for Town department heads.

MCM4: Construction Site Stormwater Runoff Control

Below, report on the construction site plan reviews, inspections, and enforcement actions completed during this reporting period.

Number of site plan reviews completed: 40

Number of inspections completed: 106

Number of enforcement actions taken: 7

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance Development

Describe the status of the post-construction ordinance required to be complete in year 2 of the permit term:

Drafted.

As-built Drawings

Describe the status of the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites required to be complete in year 2 of the permit term:

As-built drawings are required for all new construction (residential and commercial). Operation and Maintenance Plans are required for all commercial site plans. The O&M Plans are required to be recorded at the Registry of Deeds to ensure the Maintenance is know to current and future owners and enforcement can be implemented by the Town if necessary.

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

None to date.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

None to date.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

None to date.

MCM6: Good Housekeeping

Catch Basin Cleaning

Describe the status of the catch basin cleaning optimization plan:

Catch basins were not cleaned during this reporting period since the Town's catch basin cleaner vehicle has bee

If complete, attach the catch basin cleaning optimization plan or the schedule to gather information to develop the optimization plan:

- (●) The catch basin cleaning optimization plan or schedule is attached to the email submission
- ( ) The catch basin cleaning optimization plan or schedule can be found at the following website:

Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins during this reporting period.

Number of catch basins inspected: 0

Number of catch basins cleaned: 0

Total volume or mass of material removed from all catch basins: 0 [UNITS]

Below, report on the total number of catch basins in the MS4 system, if known.

Total number of catch basins: 3167

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

N/A

Street Sweeping

Describe the status of the written procedures for sweeping streets and municipal-owned lots:

Completed.

Report on street sweeping completed during the reporting period using one of the three metrics below.

- (●) Number of miles cleaned: 112
- ( ) Volume of material removed: 130 Cubic Yards
- ( ) Weight of material removed: [UNITS]

If applicable:

For rural uncurbed roadways with no catch basins, describe the progress of the inspection, documentation, and targeted sweeping plan:

All streets are swept annually, regardless of the presence of curbing or stormwater structures.

Winter Road Maintenance

Describe the status of the written procedures for winter road maintenance including the storage of salt and sand:

Nothing to date. All road salt is stored under cover in a salt shed located at 950 Central Street.

Inventory of Permittee-Owned Properties

Describe the status of the inventory, due in year 2 of the permit term, of permittee-owned properties, including parks and open spaces, buildings and facilities, and vehicles and equipment, and include any updates:

Completed in 2016 and updated in 2019.

O&M Procedures for Parks and Open Spaces, Buildings and Facilities, and Vehicles and Equipment

Describe the status of the operation and maintenance procedures, due in year 2 of the permit term, of permittee-owned properties (parks and open spaces, buildings and facilities, vehicles and equipment) and include maintenance activities associated with each:

Nothing to date.

Stormwater Pollution Prevention Plan (SWPPP)

Describe the status of any SWPPP, due in year 2 of the permit term, for permittee-owned or operated facilities including maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater:

The Town has hired a consultant to draft SWPPP during Year 2 of the permit.

Below, report on the number of site inspections for facilities that require a SWPPP completed during this reporting period.

Number of site inspections completed: 0

Describe any corrective actions taken at a facility with a SWPPP:

N/A

O&M Procedures for Stormwater Treatment Structures

Describe the status of the written procedure for stormwater treatment structure maintenance:

Drafted a Standard Operating Procedure (SOP) for municipal stormwater treatment systems, operation and inspection SOP.

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- (●) Not applicable
- ( ) The results from additional reports or studies are attached to the email submission
- ( ) The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

N/A

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

Two additional standard operating procedures (SOPs) have been drafted at this time: MCM-4 construction site runoff and site inspection SOP and MCM-5 development and redevelopment coordinated site plan review SOP.

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 2 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Complete system mapping Phase I
- Begin investigations of catchments associated with Problem Outfalls
- Develop or modify an ordinance or other regulatory mechanism for post-construction stormwater runoff from new development and redevelopment
- Establish and implement written procedures to require the submission of as-built drawings no later than two years after the completion of construction projects
- Develop, if not already developed, written operations and maintenance procedures
- Develop an inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; review annually and update as necessary
- Establish a written program detailing the activities and procedures the permittee will implement so that the MS4 infrastructure is maintained in a timely manner
- Develop and implement a written SWPPP for maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater
- Enclose or cover storage piles of salt or piles containing salt used for deicing or other purposes
- Develop, if not already developed, written procedures for sweeping streets and municipal-owned lots
- Develop, if not already developed, written procedures for winter road maintenance including storage of salt and sand
- Develop, if not already developed, a schedule for catch basin cleaning
- Develop, if not already developed, a written procedure for stormwater treatment structure maintenance
- Develop a written catchment investigation procedure *(18 months)*

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4 in the last 5 years
- Continue public education and outreach program

- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all uncurbed streets at least annually

Provide any additional details on activities planned for permit year 2 below:

The Town will continue to work with the Neponset River Watershed Association and ThinkBlue to continue and expand the stormwater education and outreach it currently completes. Stoughton will begin attaching stormwater information packets to all permit applications.

Part V: Certification of Small MS4 Annual Report 2019

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Robin A Grimm	Title:	Town Manager
Signature:		Date:	09/27/19

[Signatory may be a duly authorized representative]

Year 2 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2019-June 30, 2020

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2019 and June 30, 2020 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Stoughton

EPA NPDES Permit Number: MAR041063

Primary MS4 Program Manager Contact Information

Name: Marc J. Tisdelle, P.E. Title: Executive Director of Development Services/ Town Engineer

Street Address Line 1: Town Hall

Street Address Line 2: 10 Pearl Street, 2nd floor

City: Stoughton State: MA Zip Code: 02072

Email: mtisdelle@stoughton-ma.gov Phone Number: (781) 341-1300

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://www.stoughton.org/sites/stoughtonma/files/uploads/stoughton_swmp_report_-_6-20-19_-_public_comment_signed.pdf

Date SWMP was Last Updated: September 2020

If the SWMP is not available on the web please provide the physical address:

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state

Impairment(s)

☒ Bacteria/Pathogens ☐ Chloride ☒ Nitrogen ☒ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State: ☐ Assabet River Phosphorus ☒ Bacteria and Pathogen ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State: ☐ Bacteria/Pathogens ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. ***By checking each box you are certifying that you have completed that permit requirement fully.*** *If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 2 Requirements

- ☒ Completed Phase I of system mapping
- ☒ Developed a written catchment investigation procedure and added the procedure to the SWMP
- ☒ Developed written procedures to require the submission of as-built drawings and ensure the long term operation and maintenance of completed construction sites and added these procedures to the SWMP
- ☒ Enclosed or covered storage piles of salt or piles containing salt used for deicing or other purposes
- ☒ Developed written operations and maintenance procedures for parks and open space, buildings and facilities, and vehicles and equipment and added these procedures to the SWMP
- ☒ Developed an inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment and added this inventory to the SWMP
- ☒ Completed a written program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- ☒ Developed written SWPPPs, included in the SWMP, for all of the following permittee owned or operated facilities: maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above year 2 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Phase I mapping has been drafted and will be updated throughout Year 3

Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- ☒ Kept records relating to the permit available for 5 years and made available to the public
- ☐ The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
  - ○ This is not applicable because we do not have sanitary sewer
  - ◉ This is not applicable because we did not find any new SSOs
  - ○ The updated SSO inventory is attached to the email submission
  - ○ The updated SSO inventory can be found at the following website:
- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ Provided training to employees involved in IDDE program within the reporting period
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Updated outfall and interconnection inventory and priority ranking as needed

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above annual requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- ☒ Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was estimated consistent with Attachment 1 to Appendix H. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads

☒ Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- (•) Yes
- ( ) No

If yes, describe below, including any relevant impairments or TMDLs:

As seen in the Massachusetts Year 2016 Integrated List of Waters, Beaver Meadow Brook (MA73-20; Category 5 Water) and Steep Hill Brook (MA73-18; Category 5 Water) are now impaired for E.coli in addition to the impairments listed in the Massachusetts Year 2014 Integrated List of Waters.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed **during this reporting period**: 18

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

BMP: Resident Message - Stormwater pollution is trash, oil, cigarette butts, & dog waste

Message Description and Distribution Method:

Think Blue Massachusetts "Fowl Water" video (https://www.thinkbluemassachusetts.org/) Advertisement on Facebook & YouTube.

Targeted Audience: Residents

Responsible Department/Parties: Massachusetts Statewide Municipal Stormwater Coalition

Measurable Goal(s):

81,871 social media impressions from residents of Stoughton.

Message Date(s): July 2019

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Resident Message - Stormwater pollution is trash, oil, cigarette butts, & dog waste

Message Description and Distribution Method:

Think Blue Massachusetts "Fowl Water" video (https://www.thinkbluemassachusetts.org/) Advertisement on Facebook & YouTube.

Targeted Audience: Residents

Responsible Department/Parties: Massachusetts Statewide Municipal Stormwater Coalition

Measurable Goal(s):

81,514 social media impressions from residents of Stoughton.

Message Date(s): June 2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Annual message - Proper lawn maintenance

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on Facebook in the spring encouraging the proper use and disposal of grass clippings and encouraged the proper use of slow-release fertilizers.

Targeted Audience: Businesses, institutions and commercial facilities; Residents

Responsible Department/Parties: Southeastern Regional Stormwater Coalition

Measurable Goal(s):

The Think Blue Massachusetts Facebook account has approximately 300 followers and averages approximately 3,000 reaches per month.

Message Date(s): Nov 1, 2019; April 28 & 30, 2020; May 14 & 22, 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Annual leaf litter message - Leaf litter & brush collection

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on Facebook in Fall to encourage proper disposal of leaf litter.

Targeted Audience: Residents

Responsible Department/Parties: Southeastern Regional Stormwater Coalition

Measurable Goal(s):

The Think Blue Massachusetts Facebook account has approximately 300 followers and averages approximately 3,000 reaches per month.

Message Date(s): Sep 26 & 27, 2020; Oct 1, 8, & 11, 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Annual pet waste message - Scoop the Poop

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on Facebook in summer to encourage the proper management of pet waste.

Targeted Audience: Residents

Responsible Department/Parties: Southeastern Regional Stormwater Coalition

Measurable Goal(s):

The Think Blue Massachusetts Facebook account has approximately 300 followers and averages approximately 3,000 reaches per month.

Message Date(s): July 17, 2019; Aug 14, 2019; April 9, 14, & 16, 2020; May 13, 18, 28 & 29, 2020; June 2, 2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Annual septic maintenance message

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on Facebook regarding Septic Smart week to provide information to owners of septic systems about proper maintenance.

Targeted Audience: Residents

Responsible Department/Parties: Southeastern Regional Stormwater Coalition

Measurable Goal(s):

The Think Blue Massachusetts Facebook account has approximately 300 followers and averages approximately 3,000 reaches per month.

Message Date(s): September 16, 2019

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Annual winter deicing/salt message

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on Facebook regarding road salt application for residential, commercial, & industrial site owners on the proper storage and application rates of winter deicing material

Targeted Audience: Businesses, institutions and commercial facilities; Industrial; Residential

Responsible Department/Parties: Southeastern Regional Stormwater Coalition

Measurable Goal(s):

The Think Blue Massachusetts Facebook account has approximately 300 followers and averages approximately 3,000 reaches per month.

Message Date(s): Nov 14, 2019; Dec 5, 9, 13, 17, 18, 16, & 24, 2019; Jan 7, 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Maintain Educational Website

Message Description and Distribution Method:

Town website provides hyperlinks to a comprehensive educational website to serve the Neponset Stormwater Partnership service area as a primary resource for key information for all four target audiences.

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

This year, there were 3,562 site visitors and 5,614 unique page views.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Operate Stormwater Hotline

Message Description and Distribution Method:

Operated a regional "stormwater hotline" to field questions and problem reports regarding stormwater from across the region. Responses were collected via a website form hosted at yourcleanwater.org, via email submissions to stormwater@neponset.org, and phone calls to 781-575-0354 x 300. Responses included answers to questions, additional information or follow up investigation, and/or referral of inquiries/reports to the appropriate municipalities as appropriate. Anonymity of inquiries was maintained as requested.

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

Provided immediate answers to inquiries generated by regionalized outreach activities.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Distribute Pet Waste Information With Dog Licenses

Message Description and Distribution Method:

Educational "rack cards" regarding proper pet waste disposal were printed and provided to Town Clerk's office to include with dog license renewal requests, either in person or via mail. The number of rack cards distributed correlated to the number of dogs licensed in Town to ensure all dog owners received the message.

Targeted Audience: Residents

Responsible Department/Parties: Town Clerk, Neponset Stormwater Partnership

Measurable Goal(s):

Over the 5-year permit period achieve a reduction in the number of pet waste bags found when cleaning catch basins. Estimated that 87% of dog owners reached.

Message Date(s): Ongoing throughout 2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Summer Pet Waste Campaign

Message Description and Distribution Method:

Rack cards were placed for visitors in Town Hall, the Council on Aging/Youth Commission office, and the Town library. A PDF copy of the flyer was also posted on the Town's Engineering Department website. Materials concerning this issue were also added to the "Stormwater Development Package" for developers and builders. Social media posts were also shared on Stoughton Recreation's Facebook account

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: Engineering Dept., Recreation Dept., Neponset Stormwater Partnership

Measurable Goal(s):

A total of 8,996 people in the NSP region were reached through Facebook, with an additional 4,462 people reached through Twitter. Many more Stoughton residents reached via flyers.

Message Date(s): August 15-21, 2019

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Fall Leaf Waste Campaign

Message Description and Distribution Method:

Flyers regarding proper disposal of leaf waste were posted at Town Hall, the Library, and the Council on Aging office. The flyer was also digitally posted to the town's website and the social media messages were shared on the Stoughton Recreation Facebook page.

Targeted Audience: Residents, Businesses, Industry

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

The NSP four social media posts (two on Facebook and two on Twitter) reached a total of 16,408 people through Facebook and 6,378 people through Twitter. Many more Stoughton residents reached via flyers.

Message Date(s): October 10, 2019 and October 24, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Spring Fertilizer and Grass Clipping Campaign

Message Description and Distribution Method:

The social media message regarding proper use (or abstention from use) of fertilizer was shared on the Stoughton DPW and Stoughton Recreation Facebook pages. Links to the pertinent NSP web pages were added to the "Stormwater Resources" section of the Town's website.

Targeted Audience: Residents, Businesses, Industry

Responsible Department/Parties: DPW, Recreation Dept., Neponset Stormwater Partnership

Measurable Goal(s):

The NSP four social media posts (two on Facebook and two on Twitter) reached a total of 16,408 people through Facebook and 6,378 people through Twitter.

Message Date(s): October 10, 2019 and October 24, 2019

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Spring Fertilizer and Grass Clipping Campaign

Message Description and Distribution Method:

The social media message regarding proper use (or abstention from use) of fertilizer was shared on the Stoughton DPW and Stoughton Recreation Facebook pages. Links to the pertinent NSP web pages were added to the "Stormwater Resources" section of the Town's website

Targeted Audience: Residents, Businesses, Industry

Responsible Department/Parties: DPW, Recreation Dept., Neponset Stormwater Partnership

Measurable Goal(s):

A total of 4,704 people were reached through Facebook, with an additional 3,132 people reached through Twitter.

Message Date(s): April 23, 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Paid Facebook Advertising

Message Description and Distribution Method:

A Facebook advertising campaign mimicking one of the regular social media outreach campaigns was piloted tested. Facebook ads regarding proper fertilizer use were designed for Stoughton. These ads were nearly identical to the educational posts designed as part of the Spring outreach activity. The ads were set up to be shown to pertinent groups in Stoughton. Results of the pilot test's reach were then compared to the reach of the previous social media post on the same topic to determine if Facebook ads are a viable option for future outreach.

Targeted Audience: Residents

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

The ad ran for 12 days reached approximately 61,776 people, compared to the original social media post that reached 4,704 people. The ad also generated 1,229 clicks through to the NSP's fertilizer and yard waste management page. It was determined that Facebook ads were a useful tool for outreach and may be used in conjunction with the regular outreach campaigns in the future.

Message Date(s): June 19 – June 30, 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: School Outreach Program

Message Description and Distribution Method:

Prepared a hands-on watershed education curriculum for 4th or 5th grade students. Curriculum covered drinking water and stormwater infrastructure, local water resources, wastewater systems, water conservation, and stormwater pollution prevention techniques, and incorporated slides, videos, models, and hands-on activities. Curriculum was designed and adapted with input from teachers in participating schools and aligned with the MA 5th grade science curriculum standards. The program was delivered at the individual classroom level over the course of two 60-minute visits by a watershed educator. The educator also provided students with a water use / pollution prevention checklist and summary of the program for students to take home and review with their families. Due to the spring 2020 COVID restrictions, schools were shut down and some scheduled school visits during this period could not occur. In lieu of these visits, the educator created digital materials for teachers to use in their virtual classrooms.

Targeted Audience: Residents

Responsible Department/Parties: Stoughton Public Schools, Neponset Stormwater Partnership

Measurable Goal(s):

During the 2019-2020 school year, a total of 149 classrooms in the NSP region were visited twice, representing 79% of total 4th or 5th grade classrooms in the participating communities and an estimated 2,000 families. The COVID pandemic and subsequent school shut down prevented educators from completing all visits as scheduled. Online materials were viewed over 400 times for use in virtual learning situations. Feedback from teachers has been positive on both the in-class presentation and the online materials.

Message Date(s): September 2019 through June 2020 (school year)

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Regional Education Mailing

Message Description and Distribution Method:

An educational mailing was prepared and mailed to all addresses in Stoughton. The mailing was an 11x17 tri-fold brochure that highlighted general stormwater pollution prevention tips. The mail piece referenced key information on fertilizer, pet waste, yard waste, and litter and referred readers to additional information available at yourcleanwater.org and the stormwater hotline. The mailing was distributed to all business and residential addresses Town.

Targeted Audience: Residents and Businesses

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

100% of addresses in the target area were reached, including all businesses, residential addresses, and PO Boxes.

Message Date(s): June 5, 2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

BMP: Outreach to Septic System Owners

Message Description and Distribution Method:

An educational mailing was prepared and mailed to all addresses in Stoughton. The mailing was an 11x17 tri-fold brochure that highlighted general stormwater pollution prevention tips. The mail piece referenced key information on fertilizer, pet waste, yard waste, and litter and referred readers to additional information available at yourcleanwater.org and the stormwater hotline. The mailing was distributed to all business and

residential addresses Town.

Targeted Audience: Residents, Businesses, Industry

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

These methods reached 100% of the known septic systems in Town.

Message Date(s): March 2020

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period**:

Annual review of the Stormwater Management Plan; posting of plan on website and annual public comment.

Was this opportunity different than what was proposed in your NOI? Yes ○ No ◉

Describe any other public involvement or participation opportunities conducted **during this reporting period**:

MA Statewide Municipal Stormwater Coalition (Statewide Coalition). Think Blue MA public awareness campaign and regional collaboration on stormwater at the following public events: Metrowest/495 Partnership, Metrowest stormwater roundtable hosted by MWRC of MAPC, MMA meeting & trade show, New England Water Environment Association annual conference, MACC annual conference, MA congress of Lake and Pond associations annual workshop, New England public works association spring conference, Ecotarium Earth Day, New England Water Environment Association spring meeting.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period**.*

Number of SSOs identified: 0

Number of SSOs removed: 0

MS4 System Mapping

Below, check all that apply.

The following elements of the Phase I map have been completed:

☒ Outfalls and receiving waters

☒ Open channel conveyances

☒ Interconnections

☒ Municipally-owned stormwater treatment structures

☒ Waterbodies identified by name and indication of all use impairments

☒ Initial catchment delineations

Optional: Describe any additional progress you made on your map during this reporting period or provide additional status information regarding your map:

Phase I mapping had been drafted and will be updated throughout Year 3

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses.

◉ The outfall screening data is attached to the email submission

○ The outfall screening data can be found at the following website:

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened: 58

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- ○ The catchment investigation data is attached to the email submission
- ○ The catchment investigation data can be found at the following website:

*Below, report on the number of catchment investigations completed **during this reporting period**.*

Number of catchment investigations completed this reporting period: 0

*Below, report on the percent of catchments investigated **to date.***

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- ○ The illicit discharge removal report is attached to the email submission
- ○ The illicit discharge removal report can be found at the following website:

*Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period.***

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

*Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.*

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

Employee Training

Describe the frequency and type of employee training conducted **during the reporting period**:

IDDE Training Workshop video hosted by Central Massachusetts Regional Stormwater Coalition (CMRSWC)

MCM4: Construction Site Stormwater Runoff Control

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed: 3

Number of inspections completed: 473

Number of enforcement actions taken: 0

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

N/A

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance or Regulatory Mechanism

Below, select the option that describes your ordinance or regulatory mechanism progress.

- (●) Bylaw, ordinance, or regulations are updated and adopted consistent with permit requirements
- ( ) Bylaw, ordinance, or regulations are updated consistent with permit requirements but are not yet adopted
- ( ) Bylaw, ordinance, or regulations have not been updated or adopted

As-built Drawings

Describe the measures the MS4 has utilized to require the submission of as-built drawings and ensure long term operation and maintenance of completed construction sites:

As-built drawings are required for all new construction (residential and commercial). Operation and Maintenance Plans are required for all commercial site plans. The O&M Plans are required to be recorded at

the Registry of Deeds to ensure the Maintenance is know to current and future owners and enforcement can be implemented by the Town if necessary.

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

The Town plans to address this requirement in Year 4.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

The Town plans to address this requirement in Year 4.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

The Town has begun to develop a list of potential sites that can be modified or retrofitted, and will finalize the list over Years 3 and 4.

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected: 980

Number of catch basins cleaned: 980

Total volume or mass of material removed from all catch basins: 11,930 cubic yards

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 3,167

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

N/A

Street Sweeping

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

- (•) Number of miles cleaned: 112
- ( ) Volume of material removed: 222 cubic yards
- ( ) Weight of material removed: 300 tons

O&M Procedures and Inventory of Permittee-Owned Properties

Below, check all that apply.

The following permittee-owned properties have been inventoried:

- ☒ Parks and open spaces
- ☒ Buildings and facilities
- ☒ Vehicles and equipment

The following O&M procedures for permittee-owned properties have been completed:

- ☒ Parks and open spaces
- ☒ Buildings and facilities
- ☒ Vehicles and equipment

Stormwater Pollution Prevention Plan (SWPPP)

*Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.*

Number of site inspections completed: 1

Describe any corrective actions taken at a facility with a SWPPP:

N/A

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- ○ Not applicable
- ○ The results from additional reports or studies are attached to the email submission
- ○ The results from additional reports or studies can be found at the following website(s):

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

COVID-19 Impacts

Optional: If any of the above year 2 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Due to limitations caused by COVID-19, Phase I mapping could not be completed during this reporting period. It will be completed in Year 3

Due to limitations caused by COVID-19, employee training could not be completed during this reporting period. In early Year 3, Stoughton employees shall be shown a IDDE Training Workshop video provided by the CMRSWC.

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 3 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Inspect all outfalls/ interconnections (excluding Problem and Excluded outfalls) for the presence of dry weather flow
- Complete follow-up ranking as dry weather screening becomes available

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all uncurbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary

Provide any additional details on activities planned for permit year 3 below:

Part V: Certification of Small MS4 Annual Report 2020

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Robin Glynn Title: Town Manager

Signature: Date: 9/22/21

[Signatory may be a duly authorized representative]

Year 3 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2020-June 30, 2021

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2020 and June 30, 2021 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Stoughton

EPA NPDES Permit Number: MAR041063

Primary MS4 Program Manager Contact Information

Name: Marc J. Tisdelle, P.E. Title: Executive Director of Development Services/

Street Address Line 1: Town Hall

Street Address Line 2: 10 Pearl Street, 2nd floor

City: Stoughton State: MA Zip Code: 02072

Email: mtisdelle@stoughton-ma.gov Phone Number: (781) 341-1300

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://www.stoughton.org/sites/g/files/vyhlif3866/f/uploads/stoughton_swmp_report_-_6-20-19_-_public_comment_signed.pdf

Date SWMP was Last Updated: September 2021

If the SWMP is not available on the web please provide the physical address:

N/A

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state

Impairment(s)

☒ Bacteria/Pathogens ☐ Chloride ☒ Nitrogen ☒ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State: ☐ Assabet River Phosphorus ☒ Bacteria and Pathogen ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State: ☐ Bacteria/Pathogens ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. ***By checking each box you are certifying that you have completed that permit requirement fully.*** *If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 3 Requirements

- ☒ Inspected and screened all outfalls/interconnections (excluding Problem and Excluded outfalls)
- ☒ Updated outfall/interconnection priority ranking based on the information collected during the dry weather inspections as necessary
- ☒ Post-construction bylaw, ordinance, or other regulatory mechanism was updated and adopted consistent with permit requirements

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above year 3 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Stormwater Bylaw updated at Town Meeting. Regulations drafted an awaiting approval by the Select Board.

Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- ☒ Kept records relating to the permit available for 5 years and made available to the public
- ☒ The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
  - ○ This is not applicable because we do not have sanitary sewer
  - ◉ This is not applicable because we did not find any new SSOs

- ○ The updated SSO inventory is attached to the email submission
- ○ The updated SSO inventory can be found at the following website:

N/A

- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☐ Provided training to employees involved in IDDE program within the reporting period
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Updated system map due in year 2 as necessary
- ☒ Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- ☒ Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- ☒ Updated inventory of all permittee owned facilities as necessary
- ☒ O&M programs for all permittee owned facilities have been completed and updated as necessary
- ☒ Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- ☒ Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- ☒ Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide any additional information, and/or if any of the above annual requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Annual IDDE training was delayed due to COVID-19. It was completed in September 2021. Priority ranking table was completed in August 2021.

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time
- ☒ Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was estimated consistent with Attachment 1 to Appendix H. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

N/A

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town of Stoughton has installed Low Impact Development Stormwater Best Management practices including at the Dawe School and the Plain Street Water Treatment Plant. Nitrogen removal estimates were not calculated.

Phosphorus (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) encouraging the proper use and disposal of grass clippings and encouraging the proper use of slow-release and phosphorus-free fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Potential structural BMPs

☐ Any structural BMPs already existing or installed in the regulated area by the permittee or its agents was tracked and the phosphorus removal by the BMP was estimated consistent with Attachment 3 to Appendix F. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated phosphorus removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

N/A

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town of Stoughton has installed Low Impact Development Stormwater Best Management practices including at the Dawe School and the Plain Street Water Treatment Plant. Phosphorus removal estimates were not calculated.

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads

☒ Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town of Stoughton cleans all catch basins annually. There are approximately 20 areas in Town that are prioritized for catch basin cleaning because they collect increased amounts of sediment.

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

The Town of Stoughton has established an Asset Management system to track catch basin cleanings. This has

proven to be a very effective tool to manage the maintenance of their Stormwater Management System.

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- (●) Yes
- ( ) No

If yes, describe below, including any relevant impairments or TMDLs:

During field activities in Year 3, 11 outfalls were determined to not be MS4 outfalls. The new outfall count for Stoughton is 123 outfalls.

A segment of the Beaver Meadow Brook (MA73-20) is impaired for E. Coli and Dissolved Oxygen (the E. Coli impairment was inventoried in the updated 2016 Integrated List of Waters).

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed **during this reporting period**: 9

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

BMP: Resident Message - Proper Yard Waste Disposal

Message Description and Distribution Method:

Town of Stoughton website posted a flyer in Fall 2020 from the Neponset Stormwater Partnership (NSP) to encourage proper disposal of yard waste in Stoughton.

Targeted Audience: Residents

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

Distributed in accordance with the Town of Stoughton's nitrogen and phosphorus impairment requirements.

Message Date(s): Fall 2020

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Resident Message - Proper Lawn Fertilizer Application

Message Description and Distribution Method:

Town of Stoughton website posted a flyer in Spring 2021 from the Neponset Stormwater Partnership to encourage proper application of lawn fertilizers and communicate water quality issues associated with excessive nitrogen and phosphorus input.

Targeted Audience: Residents

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

Distributed in accordance with the Town of Stoughton's nitrogen and phosphorus impairment requirements.

Message Date(s): Spring 2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Summer Pet Waste Campaign

Message Description and Distribution Method:

Neponset Stormwater Partnership shared posts on Facebook and Twitter directed at proper disposal of pet waste. These social media messages were shared on the Stoughton Public Works, Stoughton Town Manager and Stoughton Recreation Facebook pages.

Targeted Audience: Residents, Businesses, Industry

Responsible Department/Parties: Neponset Stormwater Partnership (NSP)

Measurable Goal(s):

Participation by 100% of NSP communities and reach to at least 1,000 people in the NSP region through social media.

Distributed in accordance with the Town of Stoughton's bacteria and pathogens TMDL and impairment and nitrogen and phosphorus impairment requirements.

Message Date(s): 7/2/20, 7/6/20

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Regional Education Mailing

Message Description and Distribution Method:

An educational mailing was prepared and mailed to all addresses in participating NSP communities. The mailing was an 11X17 trifold brochure that highlighted general stormwater pollution prevention tips. The mail piece referenced key information on fertilizer, lawn maintenance, methods to reduce stormwater runoff, and referred readers to additional information available at yourcleanwater.org and the stormwater hotline. The mailing was distributed to all business and residential addresses in Stoughton.

Targeted Audience: Residents, Businesses

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

Reach 100% of addresses in participating towns, including those who do not use social media or follow town government communication channels.

Message Date(s): 6/28/21

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Septic System Message

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on their Facebook page regarding Septic Smart week to provide information to owners of septic systems about proper septic system maintenance.

Targeted Audience: Residents

Responsible Department/Parties: Think Blue Massachusetts

Measurable Goal(s):

Distributed in accordance with the Town of Stoughton's bacteria and pathogens TMDL and impairment requirements.

Message Date(s): 9/16/20

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Winter Proper Salt Use Method

Message Description and Distribution Method:

Think Blue Massachusetts shared posts on their Facebook page regarding the proper storage and application rates of winter deicing material.

Targeted Audience: Residents

Responsible Department/Parties: Think Blue Massachusetts

Measurable Goal(s):

Distribute two messages to each targeted audience during the permit term.

Message Date(s): 1/11/21

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ◉ No ○

If yes, describe why the change was made:

This outreach was developed by Think Blue Massachusetts to supplement outreach already listed on Stoughton's NOI.

BMP: Maintain Educational Website

Message Description and Distribution Method:

Town website provides hyperlinks to Yourcleanwater.org to serve the Neponset Stormwater Partnership service area as a primary resource for key information for all four target audiences.

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

Distribute two messages to each targeted audience during the permit term.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Operate Stormwater Hotline

Message Description and Distribution Method:

Operated a regional “stormwater hotline” to field questions and problem reports regarding stormwater from across the region. Responses were collected via a website form hosted at yourcleanwater.org, via email submissions to stormwater@neponset.org and phone calls to 781-575-0354 x 300. Responses included answers to questions, additional information or follow up investigation, and/or referral of inquiries/reports to the appropriate municipalities as appropriate. Anonymity of inquiries was maintained as requested.

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: DPW, Neponset Stormwater Partnership

Measurable Goal(s):

Provided immediate answers to inquiries generated by regional outreach activities.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Distribute Pet Waste Information With Dog Licenses

Message Description and Distribution Method:

Educational “rack cards” regarding proper pet waste disposal were printed and provided to Town Clerk's office to include with dog license renewal requests, either in person or via mail. The number of rack cards distributed correlated to the number of dogs licensed in Town to ensure all dog owners received the message.

Targeted Audience: Residents

Responsible Department/Parties: Town Clerk, Neponset Stormwater Partnership

Measurable Goal(s):

Over the permit period achieve a reduction in the number of pet waste bags found when cleaning catch basins. Estimated that 87% of dog owners reached.

Distributed in accordance with the Town of Stoughton's bacteria and pathogens TMDL and impairment requirements.

Message Date(s): Ongoing

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period**:

Annual review of the Stormwater Management Plan; posting of plan on website and annual public comment.

Was this opportunity different than what was proposed in your NOI? Yes ○ No ◉

Describe any other public involvement or participation opportunities conducted **during this reporting period**:

Neponset River Watershed Association ran a "Watershed Wednesday" series of presentations to share water quality results, challenges to the watershed, and other educational information.

The Neponset River Watershed Association hosts various clean-up days and citizen science programs throughout the year (September 28th, 2020 and April 17th, 2021.)

The Neponset River Watershed Association organized a public presentation on data from the 2020 Volunteer Water Quality Monitoring Program. The presentation covered the results from the 2020 sampling season and how they fit into the broader context of long-term water quality trends in the watershed. Also discussed were remaining challenges facing various waterways in the Watershed, and actions individuals can take to address those challenges.

MA Statewide Municipal Stormwater Coalition (Statewide Coalition). Think Blue MA public awareness campaign and regional collaboration on stormwater at the following public events: Metrowest/495 Partnership, Metrowest stormwater round-table hosted by MWRC of MAPC, MMA meeting & trade show, New England Water Environment Association annual conference, MACC annual conference, MA congress of Lake and Pond associations annual workshop, New England public works association spring conference, Ecotarium Earth Day, New England Water Environment Association spring meeting.

A presentation on Stormwater was given to the O'Donnell Middle School students in January, 2021.

The Town of Stoughton held a hazardous waste collection day on November 7, 2020.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period**.*

Number of SSOs identified: 0

Number of SSOs removed: 0

MS4 System Mapping

Optional: Provide additional status information regarding your map:

Stoughton mapping is ahead of schedule. Town maintains an Asset Management/GIS system that includes catch basins, manholes, piping, etc. Preliminary catchment areas have been delineated. Sanitary sewer lines have been mapped.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

- ○ No outfalls were inspected
- ◉ The outfall screening data is attached to the email submission
- ○ The outfall screening data can be found at the following website:

N/A

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened: 69

*Below, report on the percent of outfalls/interconnections screened **to date**.*

Percent of outfalls screened: 100

Optional: Provide additional information regarding your outfall/interconnection screening:

N/A

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- ◉ No catchment investigations were conducted
- ○ The catchment investigation data is attached to the email submission
- ○ The catchment investigation data can be found at the following website:

N/A

*Below, report on the number of catchment investigations completed **during this reporting period**.*

Number of catchment investigations completed this reporting period: 0

*Below, report on the percent of catchments investigated **to date.***

Percent of total catchments investigated: 0

Optional: Provide any additional information for clarity regarding the catchment investigations below:

N/A

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- (●) No illicit discharges were found
- ( ) The illicit discharge removal report is attached to the email submission
- ( ) The illicit discharge removal report can be found at the following website:

N/A

*Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed **during this reporting period.***

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

*Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed **since the effective date of the permit (July 1, 2018)**.*

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

The Town of Stoughton has a well established sanitary sewer lining program. In Year 3, the Town of Stoughton repaired a leaking sanitary sewer line in Ethyl Way in the Knollsbrook condominium complex.

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period**:

Employee training was delayed due to COVID-19. It was completed in September 2021.

MCM4: Construction Site Stormwater Runoff Control

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed: 31

Number of inspections completed: 99

Number of enforcement actions taken: 0

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

The Town of Stoughton Engineering Department and Conservation office performs regular inspections of construction sites including the review of erosion and sedimentation control measures. Although no enforcement orders were issues, any items requiring attention by the owner or contractor are regularly communicated and addressed. Copies of all site inspections are kept within the Town's Asset Management system.

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

As-built Drawings

*Below, report on the number of as-built drawings received **during this reporting period**.*

Number of as-built drawings received: 20

Optional: Enter any additional information relevant to the submission of as-built drawings:

N/A

Street Design and Parking Lots Report

Describe the status of the street design and parking lots assessment due in year 4 of the permit term, including any planned or completed changes to local regulations and guidelines:

The Town of Stoughton hired an Engineering Consulting Firm to complete this assessment. This assessment will be completed during Year 4.

Green Infrastructure Report

Describe the status of the green infrastructure report due in year 4 of the permit term, including the findings and progress towards making the practice allowable:

The Town of Stoughton hired an Engineering Consulting Firm to complete this assessment. This assessment will be completed during Year 4.

Retrofit Properties Inventory

Describe the status of the inventory, due in year 4 of the permit term, of permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas and report on any properties that have been modified or retrofitted:

The Town of Stoughton hired an Engineering Consulting Firm to complete this assessment. This assessment will be completed during Year 4.

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected: 301

Number of catch basins cleaned: 1,793

Total volume or mass of material removed from all catch basins: 570.41 tons

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 3,167

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

As described above, areas that collect increased amounts of sediment are prioritized for street and catch basin cleaning.

Street Sweeping

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

- ○ Number of miles cleaned: 128
- ○ Volume of material removed: [Select Units]
- ◉ Weight of material removed: 356.54 tons

Stormwater Pollution Prevention Plan (SWPPP)

Below, report on the number of site inspections for facilities that require a SWPPP completed ***during this reporting period****.*

Number of site inspections completed: 0

Describe any corrective actions taken at a facility with a SWPPP:

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- (•) Not applicable
- ( ) The results from additional reports or studies are attached to the email submission
- ( ) The results from additional reports or studies can be found at the following website(s):

N/A

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

N/A

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

The Town has hired an engineering consulting firm to improve the stormwater design at the Department of Public Works facility including installing a new BMP. This work started in Year 3 and will be ongoing in Year 4.

COVID-19 Impacts

Optional: If any of the above year 3 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 4 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

- Develop a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover
- Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist
- Identify a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M

programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)

Provide any additional details on activities planned for permit year 4 below:

Catchment investigations will begin in Year 4 of the Permit. Low Impact Development Best Management practices are currently under design for Glen Echo Pond as well as the Capen Reynolds farm. Two infiltration Best Management Practices are under design at the Town's DPW facility to reduce stormwater runoff, increase infiltration, and improve stormwater runoff quality.

Part V: Certification of Small MS4 Annual Report 2021

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Title:

Signature: Date:

[Signatory may be a duly authorized representative]

Year 4 Annual Report
Massachusetts Small MS4 General Permit
Reporting Period: July 1, 2021-June 30, 2022

Please DO NOT attach any documents to this form. Instead, attach all requested documents to an email when submitting the form

Unless otherwise noted, all fields are required to be filled out. If a field is left blank, it will be assumed the requirement or task has not been completed. Please ONLY report on activities between July 1, 2021 and June 30, 2022 unless otherwise requested.

Part I: Contact Information

Name of Municipality or Organization: Town of Stoughton

EPA NPDES Permit Number: MAR041063

Primary MS4 Program Manager Contact Information

Name: Marc J. Tisdelle, P.E. Title: Executive Director of Development Services/

Street Address Line 1: Town Hall

Street Address Line 2: 10 Pearl Street, 2nd floor

City: Stoughton State: MA Zip Code: 02072

Email: mtisdelle@stoughton-ma.gov Phone Number: (781) 341-1300

Stormwater Management Program (SWMP) Information

SWMP Location (web address): https://www.stoughton.org/sites/g/files/vyhlif3866/f/uploads/stoughton_swmp_report_-_6-20-19_-_public_comment_signed.pdf

Date SWMP was Last Updated: September 2022

If the SWMP is not available on the web please provide the physical address:

N/A

Part II: Self-Assessment

First, in the box below, select the impairment(s) and/or TMDL(s) that are applicable to your MS4. Make sure you are referring to the most recent EPA approved Section 303(d) Impaired Waters List which can be found here: https://www.epa.gov/tmdl/region-1-impaired-waters-and-303d-lists-state

Impairment(s)

☒ Bacteria/Pathogens ☐ Chloride ☒ Nitrogen ☐ Phosphorus
☒ Solids/ Oil/ Grease (Hydrocarbons)/ Metals

TMDL(s)

In State: ☐ Assabet River Phosphorus ☒ Bacteria and Pathogen ☐ Cape Cod Nitrogen
☐ Charles River Watershed Phosphorus ☐ Lake and Pond Phosphorus

Out of State: ☐ Bacteria/Pathogens ☐ Metals ☐ Nitrogen ☐ Phosphorus

Clear Impairments and TMDLs

Next, check off all requirements below that have been completed. ***By checking each box you are certifying that you have completed that permit requirement fully.*** *If you have not completed a requirement leave the box unchecked. Additional information will be requested in later sections.*

Year 4 Requirements

☒ Developed a report assessing current street design and parking lot guidelines and other local requirements within the municipality that affect the creation of impervious cover, made it available as part of the SWMP, and:

- ○ No updates were recommended
- ◉ Updates were recommended. The anticipated date or date of completion for updates is/was:

See note below

☒ Developed a report assessing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist, made it available as part of the SWMP, and:

- ○ No updates were recommended
- ◉ Updates were recommended. The anticipated date or date of completion for updates is/was:

See note below

☒ Identified a minimum of 5 permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious cover

Optional: If you would like to describe progress made on any incomplete requirements listed above, provide an update on previous incomplete milestones, or provide any additional details, please use the box below:

The Town does not yet have estimated completion dates for updating their regulations.

Annual Requirements

- ☒ Provided an opportunity for public participation in review and implementation of SWMP and complied with State Public Notice requirements
- ☒ Kept records relating to the permit available for 5 years and made available to the public
- ☒ The SSO inventory has been updated, including the status of mitigation and corrective measures implemented
  - ○ This is not applicable because we do not have sanitary sewer
  - ◉ This is not applicable because we did not find any new SSOs
  - ○ The updated SSO inventory is attached to the email submission
  - ○ The updated SSO inventory can be found at the following website:

    N/A
- ☒ Updated system map due in year 2 as necessary
- ☒ Provided training to employees involved in IDDE program within the reporting period
- ☒ Properly stored and disposed of catch basin cleanings and street sweepings so they did not discharge to receiving waters
- ☒ All curbed roadways were swept at least once within the reporting period
- ☒ Enclosed all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- ☒ Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards, transfer stations, and other waste handling facilities
- ☒ Updated inventory of all permittee owned facilities as necessary
- ☒ O&M programs for all permittee owned facilities have been completed and updated as necessary
- ☒ Implemented all maintenance procedures for permittee owned facilities in accordance with O&M programs
- ☒ Implemented program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- ☒ Inspected all permittee owned treatment structures (excluding catch basins)

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Bacteria/ Pathogens (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

- ☒ Annual message was distributed encouraging the proper management of pet waste, including noting any existing ordinances where appropriate
- ☒ Permittee or its agents disseminated educational material to dog owners at the time of issuance or renewal of dog license, or other appropriate time

☒ Provided information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Nitrogen (Combination of Impaired Waters Requirements and TMDL Requirements as Applicable)

Annual Requirements

*Public Education and Outreach**

☒ Distributed an annual message in the spring (April/May) that encourages the proper use and disposal of grass clippings and encourages the proper use of slow-release fertilizers

☒ Distributed an annual message in the summer (June/July) encouraging the proper management of pet waste, including noting any existing ordinances where appropriate

☒ Distributed an annual message in the fall (August/September/October) encouraging the proper disposal of leaf litter

** Public education messages can be combined with other public education requirements as applicable (see Appendix H and F for more information)*

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots subject to Permit part 2.3.7.a.iii.(c) to a minimum of two times per year (spring and fall)

Nitrogen Source Identification Report

☒ Completed the Nitrogen Source Identification Report

- ◉ The Nitrogen Source Identification Report is attached to the email submission
- ○ The Nitrogen Source Identification Report can be found at the following website:

N/A

Potential structural BMPs

☐ Any structural BMPs listed in Table 3 of Attachment 1 to Appendix H already existing or installed in the regulated area by the permittee or its agents was tracked and the nitrogen removal by the BMP was estimated consistent with Attachment 1 to Appendix H. The BMP type, total area treated by the BMP, the design storage volume of the BMP and the estimated nitrogen removed in mass per year by the BMP were documented.

- ○ The BMP information is attached to the email submission
- ○ The BMP information can be found at the following website:

N/A

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

N/A

Solids, Oil and Grease (Hydrocarbons), or Metals

Annual Requirements

Good Housekeeping and Pollution Prevention for Permittee Owned Operations

☒ Increased street sweeping frequency of all municipal owned streets and parking lots to a schedule that targets areas with potential for high pollutant loads

- ◉ The street sweeping schedule is attached to the email submission
- ○ The street sweeping schedule can be found at the following website:

N/A

☒ Prioritized inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full; Cleaned catch basins more frequently if inspection and maintenance activities indicated excessive sediment or debris loadings

Optional: If you would like to describe progress made on any incomplete requirements listed above or provide any additional details, please use the box below:

The Town of Stoughton cleans all catch basins annually. There are approximately 20 areas in Town that are prioritized for catch basin cleaning because they collect increased amounts of sediment.

Optional: Use the box below to provide any additional information you would like to share as part of your self-assessment:

N/A

Part III: Receiving Waters/Impaired Waters/TMDL

Have you made any changes to your lists of receiving waters, outfalls, or impairments since the NOI was submitted?

- (●) Yes
- ( ) No

If yes, describe below, including any relevant impairments or TMDLs:

The Town of Stoughton no longer has an applicable total phosphorus impairment. The Unnamed Tributary (MA73-32) was recognized as a Category 5 river with a phosphorus impairment in the 2016 Integrated List of Waters. On February 2, 2022, the newest 2018/2020 Integrated List of Waters was finalized and removed the phosphorus impairment from the Unnamed Tributary.

The Town of Stoughton greatly improved its outfall inventory this year. The Town reviewed roadway ownership and subdivision ownership to determine that a number of outfalls are privately owned and maintained and thus should be removed from the municipal outfall inventory. Several new BMPs were inventoried this year, and all outfalls discharging to these stormwater structures now are considered outlets; overflow structures that discharge stormwater from the BMPs to Waters of the U.S. are new MS4 Outfalls. Additionally, newly mapped drainage ditches allowed outfalls previously located beyond 100 feet from Waters of the U.S. to be included in the MS4 Outfall inventory. Updates to the inventory were also made based on field observations during catchment investigation work. In total, 47 outfalls were removed from the inventory and 11 outfalls were added. The current outfall inventory for the Town of Stoughton is 147 outfalls.

Part IV: Minimum Control Measures

Please fill out all of the metrics below. If applicable, include in the description who completed the task if completed by a third party.

MCM1: Public Education

Number of educational messages completed **during this reporting period**: 14

*Below, report on the educational messages completed **during this reporting period**. For the measurable goal(s) please describe the method/measures used to assess the overall effectiveness of the educational program.*

BMP: Annual Spring Fertilizer and Grass Clippings Message

Message Description and Distribution Method:

Prepared an outreach campaign regarding proper use (or abstention from use) of fertilizer consisting of social media posts and an interactive "fertilizer calculator" on the NSP website. Social media posts were made on the Neponset River Watershed Association's Facebook, Instagram, and Twitter Accounts and the Town of Stoughton shared/tweeted the post on the Town DPW, Town Manager, and Recreation Departments social media pages. The fertilizer and lawn care section of the NSP website was included in the post. Additionally, Facebook ads regarding fertilizer and lawn maintenance were run in Stoughton. Additionally, NepRWA tagged @Stoughton10 on Twitter in their post on fertilizer and grass clippings.

The Town also posted a flyer with information on proper fertilizer use on the stormwater page of the Town of Stoughton's website.

Targeted Audience: Residents

Responsible Department/Parties: Town of Stoughton, Neponset Stormwater Partnership

Measurable Goal(s):

Distributed in accordance with the Town's nitrogen impairment. The Facebook post received 2 likes and many more views. The Town requested a flyer with fertilizer and lawn maintenance information, which they posted online and in a few public offices. The Facebook/Instagram social media campaign reached approximately 29,968 Stoughton residents.

Message Date(s): March 30, 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Annual Fall Leaf Litter Message

Message Description and Distribution Method:

Prepared a social media campaign directed at the proper disposal of leaf waste consisting of a social media

post to Facebook, Instagram and Twitter. The social media messages were posted to the Neponset River Watershed Association's (NepRWA) accounts, and the Stoughton DPW, Recreation Department, and Town Manager shared/retweeted it to their own accounts. The leaf and yard waste campaign directed users to a section of the NSP website detailing local information on yard waste disposal options. Additionally, Facebook ads regarding yard waste were run in Stoughton. Additionally, NepRWA tagged @Stoughton10 on Twitter in their post on fall leaf litter.

The Town also posted a flyer with information on fall leaf litter disposal on the stormwater page of the Town of Stoughton's website.

Targeted Audience: Residents

Responsible Department/Parties: Town of Stoughton, Neponset Stormwater Partnership

Measurable Goal(s):

Distributed in accordance with the Town's nitrogen impairment. The NSP Facebook/Instagram social media ad campaign reached 14,931 Stoughton residents. The Facebook post on the Town's DPW Facebook Page received 1 like.

Message Date(s): October 27, 2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Annual Summer Dog Waste Message

Message Description and Distribution Method:

The Stoughton Public Works Department shared an educational method about picking up dog waste on the Public Works Department's Facebook page. The post was originally produced by the Neponset River Watershed Association.

The Town also posted a flyer with information on dog waste on the stormwater page of the Town of Stoughton's website.

Targeted Audience: Residents

Responsible Department/Parties: Stoughton Public Works Department

Measurable Goal(s):

Distributed in accordance with the Town's nitrogen and bacteria/pathogens impairments. The Facebook post received 1 like and many more views.

The original post on the Neponset River Watershed Association's (NepRWA) social media pages reached 28,473 people through Facebook Ad Campaign, 8,423 through NepRWA's Facebook Post, and 2,800 people through Twitter.

Message Date(s): July 15, 2021

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Operate Stormwater Hotline

Message Description and Distribution Method:

Operated a regional "stormwater hotline" to field questions and problem reports regarding stormwater from across the region. Responses were collected via a website form hosted at yourcleanwater.org, via email submissions to stormwater@neponset.org and phone calls to 781-575-0354 x 300. Responses included answers to questions, additional information or follow up investigation, and/or referral of inquiries/reports to the appropriate municipalities as appropriate. Anonymity of inquiries was maintained as requested.

Targeted Audience: Residents, Businesses, Industry, and Developers

Responsible Department/Parties: Stoughton Public Works Department, Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Provided immediate answers to inquiries generated by regional outreach activities.

RESULTS - Five contacts were made to the stormwater hotline this year.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Fowl Water Campaign

Message Description and Distribution Method:

Stormwater social media video campaign called "Fowl Water" that educates residents on how "stormwater pollution is trash, oil, cigarette butts, & dog waste." Campaign is run by Think Blue Massachusetts (https://thinkbluemassachusetts.org/) and published with advertisements on Facebook, Instagram, & YouTube. Think Blue posts both an English version and Spanish version of the video.

Targeted Audience: Residents

Responsible Department/Parties: Think Blue Massachusetts

Measurable Goal(s):

Think Blue Massachusetts estimates that approximately 14,585 people in Stoughton have been reached by this

campaign through Facebook and 19,624 people have been reached through YouTube. Fifteen percent of viewers of the video reported that they remembered this ad when asked about it later in a post-campaign survey.

Message Date(s): May 31 - June 17, 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ◉ No ○

If yes, describe why the change was made:

This outreach was developed by Think Blue on behalf of the Town of Stoughton to supplement outreach already noted on the NOI.

BMP:Maintain Educational Website

Message Description and Distribution Method:

Maintained a comprehensive educational website to serve the Neponset Stormwater Partnership service area as a primary resource for key information for all four target audiences. Website is located here: https://yourcleanwater.org/

Targeted Audience: Residents, Businesses, Industry and Developers

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Achieve at least 500 unique site visits every year.

RESULTS - This year, there were 4,359 site visitors and 8,523 page views.

Message Date(s): Ongoing since May 1, 2018

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Distribute Pet Waste Information with Dog Licenses

Message Description and Distribution Method:

Educational “rack cards” regarding proper pet waste disposal were printed and provided to town clerks’ offices in member towns to include with dog license renewal requests, either in person or via mail. In towns where online renewal is either available or the only renewal method offered, online graphics that link to the pet waste page of the NSP website were provided. In one town, a pet waste message was printed directly on the dog license receipts. The following distribution numbers were based on the number of licensed dogs per NSP town. The number of rack cards distributed correlated to the number of dogs licensed per town to ensure all dog owners received the message, although some towns had leftover cards from last year.

Targeted Audience: Residents

Responsible Department/Parties: Neponset Stormwater Partnership and Stoughton Town Clerk

Measurable Goal(s):

Distributed in accordance with the Town's nitrogen and bacteria/pathogens impairments.

GOAL - Participation by 100% of Town Clerks in order to reach 80% of dog owners annually with pet waste management information. Over the 5-year permit period achieve a reduction in the number of pet waste bags found when cleaning catch basins in the member communities that track this information.

RESULTS - All Towns participated in pet waste messaging. A total of 10,400 cards were requested by Town Clerks and distributed accordingly. These methods, along with some leftover cards from the previous year, are estimated to have combined to reach the entire population of dog owners in participating Towns.

Message Date(s): Materials were distributed to Town Clerks in December 2021 and disseminated to dog owners as licenses were issued.

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: School Outreach Program

Message Description and Distribution Method:

Due to COVID-19, most of the fall 2021 lessons took place online over Zoom or Google Meet. Prepared online PowerPoint-based program presentation that covered drinking water and stormwater infrastructure, local water resources, wastewater systems, water conservation, and stormwater pollution prevention techniques. As in previous years, the curriculum aligned with the MA 5th grade science curriculum standards. By March, we were presenting the program in-person. The program was delivered at the individual classroom level in Stoughton schools over the course of two 45-60-minute visits by a watershed educator. The educator also provided teachers with follow up materials to share with students and their families.

Targeted Audience: Residents

Responsible Department/Parties: Stoughton Public Schools, Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Reach at least 80% of households with 5th grade children in participating communities, and 100% positive feedback from participating classroom teachers.

RESULTS - During the 2021-2022 school year, a total of 226 classrooms were visited within the all communities in the Neponset Stormwater Partnership, representing 95% of total 5th grade classrooms in the participating communities and an estimated 3,000 families. (54 classes were visited once and 172 classrooms were visited twice.) Feedback from teachers was exceedingly positive for the online and in-person presentation materials

Message Date(s): September 2021 through June 2022 (school year)

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP:Regional Education Mailing

Message Description and Distribution Method:

An educational mailing was prepared and mailed to all business and residential addresses in Stoughton. The mailing was an 6x11 postcard that highlighted general stormwater pollution prevention tips. The mail piece referenced key information on fertilizer, lawn maintenance, methods to reduce stormwater runoff, and referred readers to additional information available at yourcleanwater.org and the stormwater hotline.

Targeted Audience: Residents and Businesses

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Reach 100% of addresses in participating Towns.

RESULTS - 100% of addresses in the target area were reached, including all businesses, residential addresses, and PO Boxes (103,697 addresses total).

Message Date(s): June 28, 2022

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP:Outreach to Septic System Owners

Message Description and Distribution Method:

Prepared four social media outreach posts directed at all septic system owners in member communities. Effective outreach was designed to be efficiently delivered to communities with bacteria impairments. The campaign was designed to coordinate with the U.S. EPA's SepticSmart Week in the month of September and included EPA-provided graphics. NepRWA's shared the campaigns on Facebook and Twitter which tagged available municipal social media accounts to encourage them to share within each community. Additionally, digital flyers were distributed to each town for use on their own websites, newsletters, and social media.

Targeted Audience: Septic System Owners

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

Distributed in accordance with the Town's bacteria/pathogens impairment.

GOAL - Participation by 100% of NSP communities and reach to at least 1,000 people in the NSP region through social media.

RESULTS - All Facebook Posts tagged the Stoughton Town Clerk. The first post on September 20, 2021 "Top 10 Ways to Be a Good Septic Owner" had 3,993 "impressions" throughout the whole Neponset Stormwater Partnership community. The same messaging was posted on Twitter and received 1,958 "impressions". The second post on September 21, 2021 "Think at The Sink" had 1,244 "impressions." The same messaging was posted on Twitter and received 870 "impressions." The third post on September 22, 2021 "Be SepticSmart, Protect Your Pipes" has 951 "impressions." The same messaging was posted on Twitter and received 548 "impressions." The fourth post on September 23, 2021 "Don't Strain Your Drain!" had 960 "impressions." The same messaging was posted on Twitter and received 389 "impressions."

Message Date(s): September 20-24, 2021

Message Completed for: Appendix F Requirements ☒ Appendix H Requirements ☒

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Regional Water Quality Forum

Message Description and Distribution Method:

Organized a public presentation on data from the 2021 Volunteer Water Quality Monitoring Program . The presentation covered the results from the 2021 sampling season and how they fit into the broader context of long-term water quality trends in the watershed. Also discussed were remaining challenges facing various waterways in the Watershed, and actions individuals can take to address those challenges. Due to COVID protocols, the event was held via Zoom. Additionally, a recording of the presentation was posted on YouTube, here: https://www.youtube.com/watch?v=953ZerSmnnQ

Targeted Audience: Residents

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Deliver detailed site-specific water quality data to interested residents and local officials in addition to general "state of the watershed" information for broader audiences.

RESULTS - There were more than 70 registrants for the event. Additionally, a recording of the presentation was uploaded to YouTube, where it has gathered another 155 views to date.

Message Date(s): February 1, 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP: Educational Outreach Evaluation

Message Description and Distribution Method:

Conducted a survey that was included in the general mailer to over 103K residents to determine the extent of the public's knowledge regarding stormwater pollution prevention and the impact of the outreach campaigns thus far. The survey also served as an educational opportunity, as information on why a particular answer was correct was revealed after the user submitted their responses. These feedback pieces also contained links to the pertinent webpages on the YourCleanWater.org website. The survey was also advertised via social media channels and various municipal email listservs. The intent is to repeat this survey regularly and monitor results over time.

Targeted Audience: Residents, Businesses, Institutions

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Produce results to compare future surveys against. In the results, determine the number of respondents who recall seeing previous NSP outreach materials, and quantify the correct responses to basic stormwater pollution prevention questions.

RESULTS - The survey had 289 respondents. Of those, 86 recalled seeing NSP outreach materials on social media. Additionally, five questions were asked with a score of 10 points each (50 points in total). Out of 289 respondents, 113 people answered all five correctly, 86 people answered four correctly, 30 people answered three correctly, 20 people answered two questions correctly, 10 people answered one question correctly, and the remaining 30 either answered incorrectly or didn't finish the survey.

Message Date(s): Summer 2022

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP:Developer/Construction Outreach

Message Description and Distribution Method:

Prepared and provided the construction-focused stormwater pollution prevention outreach to Building Departments to distribute with permits involving earth work related activities. In addition, mailed 160 brochures to individual companies who have participated in land-disturbing activities within the watershed. Lastly, developed an e-brochure was posted to the stormwater page on the Town of Stoughton's website.

Targeted Audience: Developers (construction)

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Provide construction-focused stormwater pollution prevention outreach to all companies who had engaged in land-disturbing activities in participating towns over the last year.

RESULTS - An outreach brochure was developed, and electronic copies were shared with Building and Conservation Departments. Additionally, brochures were mailed directly to any company identified as having engaged in land-disturbing activities in participating towns within the last year. The outreach piece remains available as needed and is provided to all applicants either online or by building/conservation departments.

Message Date(s): Outreach distributed Spring 2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

BMP:Industrial Outreach

Message Description and Distribution Method:

Prepared and provided stormwater best management practices outreach to over 1,000 industrial facilities in participating communities, including Stoughton.

Targeted Audience: Industrial facilities

Responsible Department/Parties: Neponset Stormwater Partnership

Measurable Goal(s):

GOAL - Provide industrial land use-focused stormwater pollution prevention outreach to all industrial properties in participating communities as determined by GIS.

RESULTS - An outreach brochure was developed and directly mailed to all industrial properties (identified by GIS) in participating communities.

Message Date(s): Outreach distributed on Spring 2021

Message Completed for: Appendix F Requirements ☐ Appendix H Requirements ☐

Was this message different than what was proposed in your NOI? Yes ○ No ◉

If yes, describe why the change was made:

N/A

Add an Educational Message

MCM2: Public Participation

Describe the opportunity provided for public involvement in the development of the Stormwater Management Program (SWMP) **during this reporting period**:

Annual review of the Stormwater Management Plan; posting of plan on website and annual public comment.

Was this opportunity different than what was proposed in your NOI? Yes ○ No ◉

Describe any other public involvement or participation opportunities conducted **during this reporting period**:

The Neponset Stormwater Partnership (NSP) ran numerous events that engaged the public. They organized volunteer-based river cleanup events with sites throughout the watershed on September 25, 2021 and April 23, 2022. At the fall event, approximately 400 volunteers worked at 12 locations to remove an estimated 400 bags of trash and debris as well as 92 tires from various waterways, parks, and wetlands. The spring event expanded even further to include 14 locations with approximately 300 volunteers locations to remove an estimated 350 bags of trash and debris.

NSP also organized a volunteer-based water quality monitoring program with 41 sites located throughout the Neponset River Watershed. Approximately 60 volunteers are involved in the program and it is operated under the terms of a DEP / EPA approved QAPP. The results are used to more meaningfully engage members of the public in implementation of the MS4 program, to inform municipal IDDE efforts, to track overall progress in restoring stream health and attaining designated uses throughout the watershed, and to provide local data that provides context for public outreach and education programs. Collected data is also used to calculate annual report card grades for water quality in the Neponset based on E. coli levels and swimming and boating criteria compliance rates.

NSP Organized a public presentation on data from the 2021 Volunteer Water Quality Monitoring Program. The presentation covered the results from the 2021 sampling season and how they fit into the broader context of long-term water quality trends in the watershed. Also discussed were remaining challenges facing various waterways in the Watershed, and actions individuals can take to address those challenges. Due to COVID protocols, the event was held via Zoom and was publicized across the entire NSP service area and drew attendees from numerous communities with questions about water issues. Additionally, a recording of the presentation was posted on YouTube.

The Taunton River Watershed Watershed Alliance actively engages the community within its watershed with various efforts every year. It hosted guided nature walks (April 21, 2022; May 18, 2022; June 18, 2022), a Taunton River Festival (September 12, 2021; June 6, 2022), citizen science programs (Fall 2021; Spring 2022), and a herring run festival (April 9 and 10, 2022), as well as nominating a volunteer of the month.

Stoughton also participates in various organizations, including MA Statewide Municipal Stormwater Coalition (Statewide Coalition). Think Blue MA fosters regional collaboration on stormwater at the following public events: Metrowest/495 Partnership, Metrowest stormwater round-table hosted by MWRC of MAPC, MMA meeting & trade show, New England Water Environment Association annual conference, MACC annual conference, MA congress of Lake and Pond associations annual workshop, New England public works

association spring conference, Ecotarium Earth Day, New England Water Environment Association spring meeting.

MCM3: Illicit Discharge Detection and Elimination (IDDE)

Sanitary Sewer Overflows (SSOs)

Check off the box below if the statement is true.

☐ This SSO section is NOT applicable because we DO NOT have sanitary sewer

*Below, report on the number of SSOs identified in the MS4 system and removed **during this reporting period**.*

Number of SSOs identified: 0

Number of SSOs removed: 0

MS4 System Mapping

Optional: Provide additional status information regarding your map:

The Town of Stoughton made improvements to its stormwater geodatabase through digitizing engineering drawings, inventorying new assets, improving the attribute data on existing assets, beginning to refine catchment delineations, and continually improving mapping during all field activities. The Town uses PeopleGIS to host mapping and inspection forms. An increasing amount of staff are using the platform while in the field and conducting inspections. The GIS is regularly improved by the Town's GIS Manager. This year, all culvert information was migrated into the PeopleGIS Crossing/Culverts online mapping system. This provides access to images, plans, and culvert details. Stormwater GIS was updated on Technology Drive based on multiple commercial as-built plans that include the surrounding roads. Stormwater assets were also updated throughout the Town, including at the new Stoughton High School. The Town also worked on mapping natural stormwater items, including Ditches and Detention Basins.

Screening of Outfalls/Interconnections

If conducted, please submit any outfall monitoring results from this reporting period. Outfall monitoring results should include the date, outfall/interconnection identifier, location, weather conditions at time of sampling, precipitation in previous 48 hours, field screening parameter results, and results from all analyses. Please also include the updated inventory and ranking of outfalls/interconnections based on monitoring results.

○ No outfalls were inspected

◉ The outfall screening data is attached to the email submission

○ The outfall screening data can be found at the following website:

N/A

*Below, report on the number of outfalls/interconnections screened **during this reporting period**.*

Number of outfalls screened: 11

*Below, report on the percent of outfalls/interconnections screened **to date**.*

Percent of outfalls screened: 100

Optional: Provide additional information regarding your outfall/interconnection screening:

New outfalls were identified during mapping updates and screened.

Catchment Investigations

If conducted, please submit all data collected during this reporting period as part of the dry and wet weather investigations. Also include the presence or absence of System Vulnerability Factors for each catchment.

- ○ No catchment investigations were conducted
- ◉ The catchment investigation data is attached to the email submission
- ○ The catchment investigation data can be found at the following website:

N/A

Below, report on the number of catchment investigations completed ***during this reporting period****.*

Number of catchment investigations completed this reporting period: 53

Below, report on the percent of catchments investigated ***to date.***

Percent of total catchments investigated: 36

Optional: Provide any additional information for clarity regarding the catchment investigations below:

N/A

IDDE Progress

If illicit discharges were found, please submit a document describing work conducted over this reporting period, and cumulative to date, including location source; description of the discharge; method of discovery; date of discovery; and date of elimination, mitigation, or enforcement OR planned corrective measures and schedule of removal.

- ○ No illicit discharges were found
- ◉ The illicit discharge removal report is attached to the email submission
- ○ The illicit discharge removal report can be found at the following website:

N/A

Below, report on the number of illicit discharges identified and removed, along with the volume of sewage removed ***during this reporting period.***

Number of illicit discharges identified: 0

Number of illicit discharges removed: 0

Estimated volume of sewage removed: 0 gallons/day

Below, report on the total number of illicit discharges identified and removed to date. At a minimum, report on the number of illicit discharges identified and removed ***since the effective date of the permit (July 1, 2018)****.*

Total number of illicit discharges identified: 0

Total number of illicit discharges removed: 0

Optional: Provide any additional information for clarity regarding illicit discharges identified, removed, or planned to be removed below:

On August 9, 2021, an anonymous complaint was filed alerting the Town to illegal dumping of sewage from a camper into a storm drain. The Board of Health filed a cease and desist order the following day. The Town sent additional enforcement letters, conducted site inspections, and fined the property. The Town has been unable to confirm whether the camper is illegally discharging wastewater. The Town will continue to pursue this matter.

Employee Training

Describe the frequency and type of employee training conducted **during this reporting period**:

The Town's annual IDDE training was completed on May 10th, and 10 employees who regularly interact with the drain system attended. This year, the training covered BMP operation and maintenance and SWPPP best practices, along with the IDDE Program.

MCM4: Construction Site Stormwater Runoff Control

*Below, report on the construction site plan reviews, inspections, and enforcement actions completed **during this reporting period**.*

Number of site plan reviews completed: 19

Number of inspections completed: 105

Number of enforcement actions taken: 1

Optional: Enter any additional information relevant to construction site plan reviews, inspections, and enforcement actions:

The Town of Stoughton Engineering Department and Conservation office performs regular inspections of construction sites including the review of erosion and sedimentation control measures. Copies of all site inspections are kept within the Town's Asset Management system.

MCM5: Post-Construction Stormwater Management in New Development and Redevelopment

Ordinance or Regulatory Mechanism

Date update was completed (due in year 3): October 19, 2021

As-built Drawings

*Below, report on the number of as-built drawings received **during this reporting period**.*

Number of as-built drawings received: 19

Optional: Enter any additional information relevant to the submission of as-built drawings:

N/A

Retrofit Properties Inventory

Below, list the permittee-owned properties that could be modified or retrofitted with BMPs to mitigate impervious areas (at least 5):

1. DPW Garage
2. Cedar Hill Golf Course
3. Jones Early Childhood Center
4. Dawe Elementary School
5. West Elementary School, Fields & Deborah L. Levitz Playground

MCM6: Good Housekeeping

Catch Basin Cleaning

*Below, report on the number of catch basins inspected and cleaned, along with the total volume of material removed from the catch basins **during this reporting period**.*

Number of catch basins inspected: 452

Number of catch basins cleaned: 1,000

Total volume or mass of material removed from all catch basins: 198.51 tons

Below, report on the total number of catch basins in the MS4 system.

Total number of catch basins: 3,142

If applicable:

Report on the actions taken if a catch basin sump is more than 50% full during two consecutive routine inspections/cleaning events:

Areas that collect increased amounts of sediment are prioritized for street and catch basin cleaning.

Street Sweeping

*Report on street sweeping completed **during this reporting period** using one of the three metrics below.*

- ○ Number of miles cleaned: 301
- ○ Volume of material removed: [Select Units]
- ◉ Weight of material removed: 370.3 tons

Stormwater Pollution Prevention Plan (SWPPP)

*Below, report on the number of site inspections for facilities that require a SWPPP completed **during this reporting period**.*

Number of site inspections completed: 2

Describe any corrective actions taken at a facility with a SWPPP:

The Town is currently in the process of designing two new stormwater BMPs at the Public Works facility on Central Street. This project will alleviate some erosion, ponding, and stormwater management concerns noted at that facility.

Additional Information

Monitoring or Study Results

Results from any other stormwater or receiving water quality monitoring or studies conducted during the reporting period not otherwise mentioned above, where the data is being used to inform permit compliance or permit effectiveness must be attached.

- ○ Not applicable
- ○ The results from additional reports or studies are attached to the email submission
- ◉ The results from additional reports or studies can be found at the following website(s):

See notes below

If such monitoring or studies were conducted on your behalf or if monitoring or studies conducted by other entities were reported to you, a brief description of the type of information gathered or received shall be described below:

The Neponset River Watershed Association conducts annual water quality monitoring throughout the watershed. The results from 2021 and previous years are summarized on this interactive map: https://neponset.maps.arcgis.com/apps/webappviewer/index.html?id=4dad8080a97341989938ca4c1c3826c9

Similarly, the Taunton River Watershed Alliance conducts an annual water quality monitoring program that tracks nitrate, total phosphorus, enterococci bacteria, dissolved oxygen, pH, temperature, and total suspended solids. The results can be found at: https://savethetaunton.org/water-quality-monitoring/water-quality-results/

Additional Information

Optional: Enter any additional information relevant to your stormwater management program implementation during the reporting period. Include any BMP modifications made by the MS4 if not already discussed above:

N/A

COVID-19 Impacts

Optional: If any of the above year 4 requirements could not be completed due to the impacts of COVID-19, please identify the requirement that could not be completed, any actions taken to attempt to complete the requirement, and reason the requirement could not be completed below:

N/A

Activities Planned for Next Reporting Period

Please confirm that your SWMP has been, or will be, updated to comply with all applicable permit requirements including but not limited to the year 5 requirements summarized below. (Note: impaired waters and TMDL requirements are not listed below)

Yes, I agree ☒

Annual Requirements

- Annual report submitted and available to the public
- Annual opportunity for public participation in review and implementation of SWMP
- Keep records relating to the permit available for 5 years and make available to the public
- Properly store and dispose of catch basin cleanings and street sweepings so they do not discharge to receiving waters
- Annual training to employees involved in IDDE program
- Update inventory of all known locations where SSOs have discharged to the MS4
- Continue public education and outreach program
- Update outfall and interconnection inventory and priority ranking and include data collected in connection with the dry weather screening and other relevant inspections conducted
- Implement IDDE program
- Review site plans of construction sites as part of the construction stormwater runoff control program
- Conduct site inspection of construction sites as necessary
- Inspect and maintain stormwater treatment structures
- Log catch basins cleaned or inspected
- Sweep all curbed streets at least annually
- Continue investigations of catchments associated with Problem Outfalls
- Implemented SWPPPs for all permittee owned or operated maintenance garages, public works yards,

transfer stations, and other waste handling facilities
- Review inventory of all permittee owned facilities in the categories of parks and open space, buildings and facilities, and vehicles and equipment; update if necessary
- Review O&M programs for all permittee owned facilities; update if necessary
- Implement all maintenance procedures for permittee owned facilities in accordance with O&M programs
- Implement program for MS4 infrastructure maintenance to reduce the discharge of pollutants
- Enclose all road salt storage piles or facilities and implemented winter road maintenance procedures to minimize the use of road salt
- Review as-built drawings for new and redevelopment to ensure compliance with post construction bylaws, regulations, or regulatory mechanism consistent with permit requirements
- Inspect all permittee owned treatment structures (excluding catch basins)
- Identify additional permittee-owned properties that could potentially be modified or retrofitted with BMPs to reduce impervious areas so that the permittee maintains a minimum of 5 sites in their inventory, until such a time when the permittee has less than 5 sites remaining

Provide any additional details on activities planned for permit year 5 below:

The Town plans to continue to implement its stormwater program in accordance with the MS4 Permit.

Part V: Certification of Small MS4 Annual Report 2021

40 CFR 144.32(d) Certification

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, I certify that the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name: Title:

Signature: Date:

[Signatory may be a duly authorized representative]

APPENDIX J

Minimum Control Measures BMPs

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #1 - Public Education and Outreach

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Distribution of a minimum of two (2) educational messages over the permit term to each of the four (4) required audiences**	Residents (1)	DPW Operations, Engineering	Distribute at least two educational messages within the permit term (including spring cleanup, pet waste, and fall leaf flyers)	2018	July 2019
		Businesses, Institutions, and Commercial Facilities (2)	DPW Operations, Engineering	Distribute stormwater informational handout and construction and erosion control handout as attachments to permit applications		
		Developers (construction) (3)	DPW Operations, Engineering	Distribute stormwater informational handout and construction and erosion control handout as attachments to permit applications		
		Industrial Facilities (4)	DPW Operations, Engineering	Distribute mailings to industrial properties two times over permit term		
1A	School Curricula/Programs	Classroom Education	Engineering	Stormwater Presentation to Middle and High Schools	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #2 - Public Involvement and Participation

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Public Review**	SWMP Review	Engineering	Make SWMP available at least annually for public review	2018	July 2019
R2	**Public Participation**	SWMP Review	Engineering	Allow public to comment on stormwater management plan annually	2018	July 2019
R3	Public Participation	Hotline/webline	DPW Operations, Engineering	Publish contact on stormwater for soliciting complaints and questions	2018	N/A
1A	Public Participation	Stormwater Committee/Task Force	Board of Selectmen	Identify stormwater problem areas and develop corrections plan	2018	N/A
2A	Public Participation	Household Hazardous Waste	Board of Health	Hold household hazardous waste collection day annually	2018	N/A
3A	Public Participation	Neponset River Watershed Association Membership	Engineering	Attend several meetings per year and collaborate with other Towns	2018	N/A
4A	Public Participation	Harris Pond Citizen Committee	Conservation Commission	Form committee to increase awareness and support to restore Harris Pond	2018	N/A
5A	Public Participation	Ames Pond Citizen Committee	Conservation Commission	Form committee to increase awareness and support to restore Ames Long Pond	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #3 - Illicit Discharge Detection and Elimination (IDDE) Program

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**SSO Inventory**	Develop SSO inventory in accordance with permit conditions	DPW Operations	Within 1 year of effective date develop inventory of historical SSOs that occurred within the MS4 in previous 5 Years	2018	July 2019
R2	**Storm Sewer System Map**	Create map and update during IDDE program completion	Engineering	Update map within 2 years of effective date of permit and complete full system map 10 years after effective date of permit	2018	July 2020
R3	**Written IDDE Program Development**	Create written IDDE program	Engineering	Complete within 1 year of the effective date of permit	2018	July 2019
R4	**Implement IDDE Program**	Implement catchment investigations according to program and permit conditions	Engineering	Implement catchment investigations according to program and permit conditions	2018	July 2028
R5	**Employee Training**	Train employees on IDDE implementation	DPW Operations	Train annually	2018	July 2019
R6	**Conduct Dry Weather Screening**	Conduct in accordance with outfall screening procedure and permit conditions	Engineering	Conduct in accordance with outfall screening procedure and permit conditions	2018	July 2021
R6	**Conduct Wet Weather Screening**	Conduct in accordance with outfall screening procedure	Engineering	Conduct in accordance with outfall screening procedure and permit conditions	2018	July 2028
R7	**Ongoing Screening**	Conduct dry weather and wet weather screening as necessary	Engineering	Conduct in accordance with outfall screening procedure and permit conditions	2018	N/A
R8	**IDDE Regulations**	Comply with local bylaws, state and federal requirements	Engineering	Continue to eliminate illicit discharge violations	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #4 - Construction Site Stormwater Runoff Control

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Site inspection and enforcement of Erosion and Sediment Control (ESC) measures**	Complete written procedures of site inspections and enforcement procedures	Engineering, Conservation Commission, Planning Board, Board of Health	Within 1 year of effective date of the permit, develop written/electronic SOP for inspection/enforcement of ESC measures	2018	July 2019
R2	**Site plan review**	Complete written procedures of site plan review and begin implementation	Engineering, Conservation Commission, Planning Board, Board of Health	Complete within 1 year of the effective date of the permit	2018	July 2019
R3	**Erosion and Sediment Control**	Adoption of requirements for construction operators to implement a sediment and erosion control program	Engineering, Conservation Commission, Planning Board, Board of Health	Complete within 1 year of the effective date of the permit	2018	July 2019
R4	**Waste Control**	Adoption of requirements to control wastes, including but not limited to, discarded building materials, concrete truck wash out, chemicals, litter, and sanitary wastes	Engineering, Conservation Commission, Planning Board, Board of Health	Complete within 1 year of the effective date of the permit	2018	July 2019
R5	**Construction Ordinance/Bylaw**	Make updated revisions to ESC Bylaw Language	Engineering, Conservation Commission, Planning Board, Board of Health	Continue to implement and enforce construction ordinance and make revisions as necessary	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #5 - Stormwater Management in New Development and Redevelopment

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**As-built plans for on-site stormwater control**	The procedures to require submission of as-built drawings and ensure long term operation and maintenance will be a part of the SWMP	Engineering, Planning Board, Conservation Commission	Require submission of as-built plans for completed projects	2018	July 2020
R2	**Inventory and priority ranking of MS4-owned properties that may be retrofitted with BMPs**	Conduct detailed inventory of MS4 owned properties and rank for retrofit potential	Engineering, Planning Board, Conservation Commission	Complete 4 years after permit effective date	2018	July 2022
R3	**Allow green infrastructure**	Develop a report assessing existing local regulations to determine the feasibility of making green infrastructure practices allowable when appropriate site conditions exist	Engineering, Planning Board, Conservation Commission	Complete 4 years after permit effective date	2018	July 2022
R4	**Street design and parking lot guidelines**	Develop a report assessing requirements that affect the creation of impervious cover. The assessment will help determine if changes to design standards for streets and parking lots can be modified to support low impact design options	Engineering, Planning Board, Conservation Commission	Complete 4 years after permit effective date	2018	July 2022
R5	**Ensure any stormwater controls or management practices for new development and redevelopment will prevent or minimize impacts to water quality**	Adoption, amendment or modification of a regulatory mechanism to meet permits requirements	Engineering, Planning Board, Conservation Commission	Complete 2 years after permit effective date	2018	July 2020
1A	Monitoring	Monitor construction impacts on amount of impervious surfaces	Engineering, Planning Board, Conservation Commission	Record pre/post-construction changes to amount of impervious surfaces	2018	N/A
2A	Post-Construction Ordinance/Bylaw	Make updated revisions to Post-Construction Management Bylaw language	Engineering, Planning Board, Conservation Commission	Update bylaw within 2 years of effective permit date	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Control Measures

CM #6 - Good House Keeping and Pollution Prevention for Permittee Owned Operations

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**O&M procedures**	Create written O&M procedures for parks and open spaces, buildings and facilities, and vehicles and equipment	DPW Operations, Engineering	Complete within 2 years after permit effective date	Completed	July 2020
R2	**Inventory all permittee-owned parks and open spaces, buildings and facilities (including their storm drains), and vehicles and equipment**	Create inventory	Faculty Director	Complete 2 years after permit effective date	2018	July 2020
R3	**Infrastructure O&M**	Establish and implement program for repair and rehabilitation of MS4 infrastructure	DPW Operations	Complete 2 years after permit effective date	Completed	July 2020
R4	**Stormwater Pollution Prevention Plan (SWPPP)**	Create Stormwater Pollution Prevention Plan (SWPPP) for maintenance garages, transfer stations and other waste- handling facilities	DPW Operations	Complete 2 years after permit effective date	2018	July 2020
R5	**Catch Basin Cleaning**	Establish schedule for catch basin cleaning such that each catch basin is no more than 50% full and clean catch basins on that schedule	DPW Operations	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	2018	July 2020
R6	**Street Sweeping Program**	Sweep all streets and permitee-owned parking lots in accordance with permit conditions	DPW Operations	Sweep all streets and permitee-owned parking lots once per year in the spring	2018	July 2020
R7	**Road Salt use optimization program**	Establish and implement a program to minimize the use of road salt	DPW Operations	Implement salt use optimization during deicing season	2018	July 2020
R8	**Inspections and maintenance of stormwater treatment structures**	Establish and implement inspection and maintenance procedures and frequencies	DPW Operations	Inspect and maintain treatment structures at least annually	2018	July 2020
1A	Norfolk County Mosquito Control Project	Coordinate annual meeting	DPW Operations, Board of Health, Conservation Commission	Contact annually	2018	N/A

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Water Quality Impairments

Taunton River Watershed, Neponset River, Unnamed Tributary (MA73-32) - Bacteria and Pathogens

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	Public Education and Outreach	Distribute annual message encouraging the proper management of pet waste	DPW Operations, Board of Health	Annual distribution of educational messages over the permit term (5 years)	2018	July 2019
		Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a bacteria or pathogen impaired waterbody	DPW Operations, Board of Health	Provide septic maintenance information to septic contractors to distribute to residents.	2018	July 2019
R2	Illicit Discharge	Prioritize catchment areas	DPW Operations, Board of Health	Complete within 1 year of the effective date of permit and update as required	2018	July 2019

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Water Quality Impairments

Unnamed Tributary (MA73-34) - Phosphorus

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Public Education and Outreach**	Annual message in spring timeframe that encourages the proper use and disposal of grass clipping and encourages the proper use of slow-release and phosphorus-free fertilizers. Annual message in the summer timeframe encouraging the proper management of per ewaste, including noting any existing ordinances where appropriate. Annual message in the fall timeframe encouraging the proper disposal of leaf litter.	DPW Operations, Board of Health	Distribute required messages each year.	2018	July 2019
R2	**Stormwater Management in New Development and Redevelopment**	Include requirement that new development and redevelopment stormwater management BMPs be optimized for phosphorus removal.	DPW Operations, Board of Health	Incorporate phosphorus removal into new stormwater regulations	2018	July 2019
R3	**Good House Keeping and Pollution Prevention for Permittee Owned Operations**	Establish procedures to properly manage grass cutting and leaf litter on permittee property, including prohibiting blowing organic waste materials onto adjacent impervious surfaces; increased street sweeping frequency of all municipal owned streets and parking lots to a minimum of two times a year, once in the spring and at least once in the fall.	DPW Operations, Board of Health	Establish procedures for dealing with waste produced on permittee owned properties	2018	July 2019
R4	**Phosphorus Source Identification Report**	Complete a Phosphorus Source Identification Report.	DPW Operations, Board of Health	Complete within 4 years of the permit effective date	2018	July 2022
R5	**Structural BMPs**	Evaluate all permittee-owned properties identified as presenting retrofit opportunities or areas for structural BMP installation under permit part 2.3.6.d.ii or identified in the Phosphorus Source Identification Report that are within the drainage area of the water quality limited water or its tributaries.	DPW Operations, Board of Health	Complete within 5 years of the permit effective date	2018	July 2023

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Water Quality Impairments

Taunton River Watershed - Nitrogen

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Public Education and Outreach**	Residential, Business, Commercial and Institution	Engineering	Distribute required messages each year	2018	July 2019
R2	**Stormwater Management in New Development and Redevelopment**			Incorporate TMDL into new stormwater regulations	2018	July 2019
R3	**Good House Keeping and Pollution Prevention for Permittee Owned Operations**			Establish procedures for dealing with waste produced on permittee owned properties	2018	July 2019
R4	**Nitrogen Source Identification Report**			Complete within 4 years of the permit effective date	2018	July 2022
R5	**Structural BMPs**			Complete within 5 years of the permit effective date	2018	July 2023

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

Town of Stoughton, Massachusetts

MA MS4 General Permit - Water Quality Impairments

Ames Long Pond, Bolivar Pond - Solids, Oil and Grease, or Metals

BMP ID	BMP Categorization	BMP Description	Responsible Department/Parties	Measurable Goal	Beginning Year of Implementation	Required to Complete by
R1	**Stormwater Management in New Development and Redevelopment**	Stormwater management systems designed on commercial and industrial land use areas draining to the water quality limited waterbody shall incorporate designs that allow for shutdown and containment where appropriate to isolate the system in the event of an emergency spill or other unexpected event.	DPW Operations, Board of Health	Implement BMPs that allow for the prevention of metals being discharged into impaired bodies of water	2018	July 2019
R2	**Good House Keeping and Pollution Prevention for Permittee Owned Operations**	Increase street sweeping frequency of all municipal owned streets and parking lots to a schedule determined by the permittee to target areas with potential for high pollutant loads.	DPW Operations, Board of Health	Increase street sweeping frequency at target areas with potential for high pollutant loads	2018	July 2019
R3		Prioritize inspection and maintenance for catch basins to ensure that no sump shall be more than 50 percent full.	DPW Operations, Board of Health	Review catch basin cleaning records annually to prioritize maintenance	2018	July 2019
R4		Each annual report shall include the street sweeping schedule determined by the permittee to target high pollutant loads.	DPW Operations, Board of Health	Include street sweeping schedule in annual report	2018	July 2019

R = Required under Permit
A = Additional Activity beyond Permit Requirements (optional)

APPENDIX K

Operations and Maintenance (O&M) Plan

APPENDIX L

Illicit Discharge Detection and Elimination (IDDE) Plan

ILLICIT DISCHARGE DETECTION AND ELIMINATION (IDDE) PLAN

Town of Stoughton

September 2023

ENVIRONMENTAL PARTNERS
— An Apex Company —

TABLE OF CONTENTS

LIST OF TABLES 3
LIST OF FIGURES 4
LIST OF APPENDICIES 5
SECTION 1 INTRODUCTION 1
SECTION 1.1 MS4 PROGRAM 1
SECTION 1.2 ILLICIT DISCHARGES 1
SECTION 1.3 ALLOWABLE NON-STORMWATER DISCHARGES 2
SECTION 1.4 RECEIVING WATERS AND IMPAIRMENTS 3
SECTION 1.5 IDDE PROGRAM GOALS, FRAMEWORK, AND TIMELINE 4
SECTION 1.6 WORK COMPLETED UNDER THE 2003 MS4 PERMIT 5
SECTION 2 AUTHORITY AND STATEMENT OF IDDE RESPONSIBILITIES 7
SECTION 2.1 LEGAL AUTHORITY 7
SECTION 2.2 STATEMENT OF RESPONSIBILITIES 7
SECTION 3 STORMWATER SYSTEM MAPPING 8
SECTION 3.1 PHASE I MAPPING 8
SECTION 3.2 PHASE II MAPPING 9
SECTION 3.3 ADDITIONAL RECOMMENDED MAPPING ELEMENTS 10
SECTION 4 SANITARY SEWER OVERFLOWS (SSOS) 11
SECTION 5 ASSESSMENT AND PRIORITY RANKING OF OUTFALLS 13
SECTION 5.1 OUTFALL CATCHMENT DELINEATIONS 13
SECTION 5.2 OUTFALL AND INTERCONNECTION INVENTORY AND INITIAL RANKING 13
SECTION 6 DRY WEATHER OUTFALL SCREENING AND SAMPLING 16
SECTION 6.1 WEATHER CONDITIONS 16
SECTION 6.2 DRY WEATHER SCREENING/SAMPLING PROCEDURE 16
Section 6.2.1 General Procedure 16
Section 6.2.2 Field Equipment 17
Section 6.2.3 Sample Collection and Analysis 18
SECTION 6.3 INTERPRETING OUTFALL SAMPLING RESULTS 21

SECTION 6.4 DRY WEATHER WORK COMPLETED TO DATE 22
SECTION 6.5 FOLLOW-UP RANKING OF OUTFALLS AND INTERCONNECTIONS 22
SECTION 7 CATCHMENT INVESTIGATIONS 24
SECTION 7.1 SYSTEM VULNERABILITY FACTORS 24
SECTION 7.2 DRY WEATHER MANHOLE INSPECTIONS 25
SECTION 7.3 WET WEATHER OUTFALL SAMPLING 26
SECTION 7.4 SOURCE ISOLATION AND CONFIRMATION 27
Section 7.4.1 Sandbagging 28
Section 7.4.2 Smoke Testing 28
Section 7.4.3 Dye Testing 28
Section 7.4.4 CCTV/Video Inspection 29
Section 7.4.5 Optical Brightener Monitoring 29
Section 7.4.6 IDDE Canines 29
SECTION 7.5 ILLICIT DISCHARGE REMOVAL 29
Section 7.5.1 Confirmatory Outfall Screening 30
SECTION 7.6 ONGOING SCREENING 30
SECTION 8 TRAINING 31
SECTION 9 PROGRESS REPORTING 32

LIST OF TABLES

Table 1-1 Impaired Waters in the Town of Stoughton 3
Table 1-2 IDDE Program Implementation Timeline 5
Table 3-1 Summary of Mapped MS4 Structures 9
Table 4-1 SSO Inventory 12
Table 6-1 Field Equipment – Dry Weather Outfall Screening and Sampling 17
Table 6-2 Field Screening Parameters and Analysis Methods 19
Table 6-3 Required Analytical Methods, Detection Limits, Hold Times, and Preservatives 20
Table 6-4 Benchmark Field Measurements for Select Parameters 21
Table 6-5 Location and Catchment Priority of Newly found Outfalls 22

LIST OF FIGURES

Figure 1-1 IDDE Investigation Procedure Framework 4

LIST OF APPENDICIES

Appendix A – Legal Authority (IDDE By-law or Ordinance)
Appendix B – Storm System Mapping
Appendix C – Catchment Delineation Mapping and Ranking Matrix
Appendix D – Field Forms and Hyperlinks to Laboratories and Field Services Companies
Appendix E – Outfall Sampling / Catchment Investigation Results
Appendix F – System Vulnerability Factor (SVF) Inventory
Appendix G – New England Interstate Water Pollution Control Commission IDDE Manual
Appendix H – IDDE Employee Training Record

SECTION 1 INTRODUCTION

SECTION 1.1 MS4 PROGRAM

This Illicit Discharge Detection and Elimination (IDDE) Plan has been developed for The Town of Stoughton to address the requirements of the United States Environmental Protection Agency's (EPA's) 2016 National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts, hereafter referred to as the "2016 Massachusetts MS4 Permit" or "MS4 Permit."

The 2016 Massachusetts MS4 Permit and 2020 Permit Modifications require that each permittee, or regulated community, address six Minimum Control Measures. These measures include the following:

1. Public Education and Outreach
2. Public Involvement and Participation
3. Illicit Discharge Detection and Elimination Program
4. Construction Site Stormwater Runoff Control
5. Stormwater Management in New Development and Redevelopment (Post Construction Stormwater Management)
6. Good Housekeeping and Pollution Prevention for Permittee Owned Operations

Under Minimum Control Measure 3, the permittee is required to implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its municipal separate storm sewer system and implement procedures to prevent such discharges. The IDDE program must also be recorded in a written (hardcopy or electronic) document. This IDDE Plan has been prepared to address this requirement. Originally, the Town published this Plan in 2019, and since then, the Town has updated the Plan as needed.

SECTION 1.2 ILLICIT DISCHARGES

An "illicit discharge" is any discharge to a drainage system that is not composed entirely of stormwater, with the exception of discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire-fighting activities.

Illicit discharges may take a variety of forms. Illicit discharges may enter the drainage system through direct or indirect connections. Direct connections may be relatively obvious, such as cross-connections of sewer services to the storm drain system. Indirect illicit discharges may be more difficult to detect or address, such as failing septic systems that discharge untreated sewage to a ditch within the MS4, or a sump pump that discharges contaminated water on an intermittent basis.

Some illicit discharges are intentional, such as dumping used oil (or other pollutant) into catch basins, a resident or contractor illegally tapping a new sewer lateral into a storm drain pipe to avoid

the costs of a sewer connection fee and service, and illegal dumping of yard wastes into surface waters.

Some illicit discharges are related to outdated building and construction practices. Examples of illicit discharges in this category include floor drains in old buildings that are connected to the storm drain system, as well as sanitary sewer overflows that enter the drainage system. Sump pumps legally connected to the storm drain system may be used inappropriately, such as for the disposal of floor washwater or old household products, in many cases due to a lack of understanding on the part of the homeowner.

Elimination of some discharges may require substantial costs and efforts, such as reconfiguring a sanitary sewer connection from a municipal storm to a sanitary sewer drain. Other beneficial strategies, such as reducing dog waste, can be accomplished through public outreach in conjunction with installing dog waste bins.

Regardless of the situation, illicit discharges can contribute high levels of pollutants, such as heavy metals, toxics, oil, grease, solvents, nutrients, and pathogens to surface waters.

SECTION 1.3 ALLOWABLE NON-STORMWATER DISCHARGES

The following categories of non-stormwater discharges are allowed under the MS4 Permit unless the permittee, EPA, or Massachusetts Department of Environmental Protection (MassDEP) identifies any category or individual discharge of non-stormwater discharge as a significant contributor of pollutants to the MS4:

- Water line flushing
- Landscape irrigation
- Diverted stream flows
- Rising ground water
- Uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20))
- Uncontaminated pumped groundwater
- Discharge from potable water sources
- Foundation drains
- Air conditioning condensation
- Irrigation water, springs
- Water from crawl space pumps
- Footing drains
- Lawn watering
- Individual resident car washing
- De-chlorinated swimming pool discharges
- Street wash waters
- Residential building wash waters without detergents

If these discharges are identified as significant contributors to the MS4, they must be considered an “illicit discharge” and addressed in the IDDE Plan (i.e., control these sources so they are no longer significant contributors of pollutants and/or eliminate the sources entirely).

SECTION 1.4 RECEIVING WATERS AND IMPAIRMENTS

Table 1-1 lists the "impaired waters" within the boundaries of Stoughton's MS4 regulated area. Impaired waters are water bodies that do not meet water quality standards for one or more designated use(s), such as recreation or aquatic habitat. The inventory is based on the Massachusetts 2018/2020 Integrated List of Waters published by MassDEP in February 2022 and updated every two years. The first draft of this IDDE Plan, published in 2019, and the Town's Notice of Intent (NOI), published in 2018, used the previous Massachusetts 2014 Integrated List of Waters. There are a few changes regarding Stoughton impaired waters classification between the 2014 and 2018/2020 Integrated Lists of Waters. In this period, MassDEP published Total Maximum Daily Load (TMDL) reports for Beaver Meadow Brook (MA73-20; Category 5 Water) and Steep Hill Brook (MA73-18; Category 5 Water), and both are now impaired for E. coli, Pinewood Pond is now impaired for aquatic plants (macrophytes), Ames Long Pond is now impaired for fanwort, Town Pond is no longer impaired for non-native aquatic plants but is now impaired for fanwort, and Unnamed Tributary MA73-32 is no longer impaired for low pH or phosphorus.

Table 1-1 Impaired Waters in the Town of Stoughton

Water Body Name	Segment ID	Category	Impairment(s)	Associated Approved TMDL
Farrington Pond	MA73040	4c	• Non-Native Aquatic Plants	
Glen Echo Pond	MA73022	4c	• Non-Native Aquatic Plants	
Pinewood Pond	MA73039	4c	• Non-Native Aquatic Plants • Aquatic Plants (Macrophytes)	
Town Pond	MA73056	4c	• Fanwort	
Woods Pond	MA73055	4c	• Non-Native Aquatic Plants	
Beaver Meadow Brook	MA73-20	5	• Oxygen, Dissolved • Escherichia coli (E. coli)	2592
Unnamed Tributary	MA73-32	5	• Benthic Macroinvertebrates • Escherichia coli (E. coli)	54860
Ames Long Pond	MA62001	5	• Non-Native Aquatic Plants • Aquatic Plants (Macrophytes) • Turbidity • Fanwort • Nutrient/Eutrophication Biological Indicators	
Steep Hill Brook	MA73-18	5	• Escherichia coli (E. coli)	

Category 4c Waters – impaired water bodies where the impairment is not caused by a pollutant. No TMDL required.
Category 5 Waters – impaired water bodies that require a TMDL.
"Approved TMDLs" are those that have been approved by EPA as of the date of issuance of the Massachusetts 2018/2020 List of Integrated Waters (February 2022).

These impairments require additional sampling in accordance with Appendix G of the MS4 Permit. The Town must sample for dissolved oxygen, temperature, BOD (Biological Oxygen Demand), total

phosphorous, and E. coli at outfalls discharging to the Beaver Meadow Brook; E. coli at Unnamed Tributary (MA73-32); total suspended solids and turbidity at Ames Long Pond; and E. coli at Steep Hill Brook. Due to the Boston Harbor Watershed (Neponset, Weymouth & Weir) and the Taunton Watershed's TMDL for pathogens, the Town must sample all outfalls for E. coli and fecal coliform.

In order to comply with the 2016 MS4 Permit, the Town of Stoughton must implement the illicit discharge program consistent with the requirements outlined in Appendix H. Catchments draining to Beaver Meadow Brook (MA73-20), Unnamed Tributary (MA73-32), Ames Long Pond (MA62001), and Steep Hill Brook (MA73-18) shall be designated as high priority for purposes of implementing the IDDE program.

SECTION 1.5 IDDE PROGRAM GOALS, FRAMEWORK, AND TIMELINE

The goals of the IDDE program are to find and eliminate illicit discharges to the Town's municipal separate storm sewer system and to prevent illicit discharges from happening in the future. The program consists of the following major components as outlined in the MS4 Permit:

- Legal authority and regulatory mechanism to prohibit illicit discharges and enforce this prohibition
- Storm system mapping
- Inventory and ranking of outfalls
- Dry weather outfall screening
- Catchment investigations
- Identification/confirmation of illicit sources
- Illicit discharge removal
- Follow-up screening
- Employee training

The IDDE investigation procedure framework is shown in **Figure 1-1**. The required timeline for implementing the IDDE program is shown in **Table 1-2.**

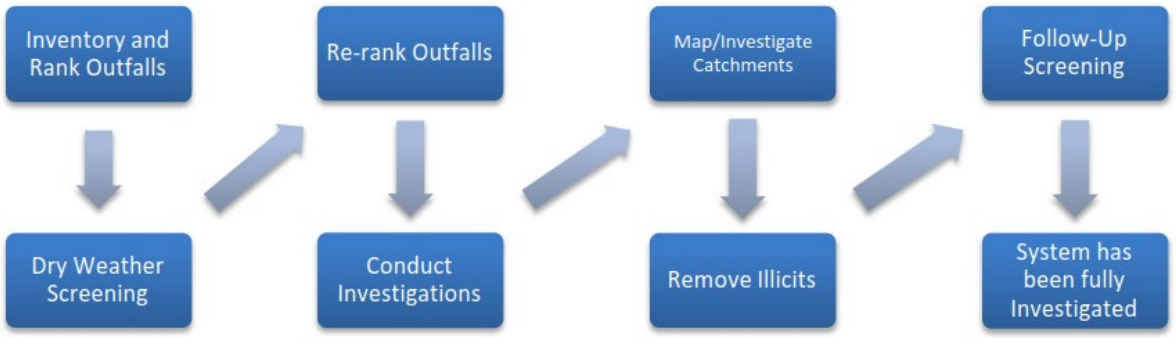


Figure 1-1 IDDE Investigation Procedure Framework

Table 1-2 IDDE Program Implementation Timeline

IDDE Program Requirement	Completion Date from Effective Date of Permit					
	1 Year (June 2019)	1.5 Years (Dec. 2019)	2 Years (June 2020)	3 Years (June 2021)	7 Years (June 2025)	10 Years (June 2028)
Written IDDE Program Plan	X					
Sanitary Sewer Overflow (SSO) Inventory	X					
Written Catchment Investigation Procedure		X				
Phase I Mapping			X			
Phase II Mapping						X
IDDE Regulatory Mechanism or By-law (if not already in place)				X		
Dry Weather Outfall Screening				X		
Follow-up Ranking of Outfalls and Interconnections				X		
Catchment Investigations – Problem Outfalls					X	
Catchment Investigations – all Problem, High and Low Priority Outfalls						X

SECTION 1.6 WORK COMPLETED UNDER THE 2003 MS4 PERMIT

The 2003 MS4 Permit required each MS4 community to develop a plan to detect illicit discharges using a combination of mapping of the storm system, adopting a regulatory mechanism to prohibit illicit discharges and enforce this prohibition, and identifying tools and methods to investigate suspected illicit discharges. Each MS4 community was also required to define how confirmed discharges would be eliminated and how their removal would be documented.

The Town of Stoughton has completed the following IDDE program activities consistent with the 2003 MS4 Permit requirements:

- Developed a map of outfalls and receiving waters
- Adopted an IDDE by-law or regulatory mechanism
- Developed procedures for locating illicit discharges (e.g., visual screening of outfalls for dry weather discharges, dye or smoke testing)
- Developed procedures for locating the source of the discharge
- Developed procedures for removal of the source of an illicit discharge
- Developed procedures for documenting actions and evaluating impacts on the storm sewer system subsequent to removal

In addition to the 2003 MS4 Permit requirements, the Town completed other IDDE-related activities prior to the 2016 MS4 Permit:

- Outfall sampling
- Additional storm system mapping, including the locations of catch basins, manholes and pipe connectivity

SECTION 2 AUTHORITY AND STATEMENT OF IDDE RESPONSIBILITIES

SECTION 2.1 LEGAL AUTHORITY

The Town of Stoughton has adopted Chapter 159: Stormwater Management Bylaw (adopted at 2021 Annual Town Meeting) and Rules and Regulations for Stormwater Management (approved by Select Board on October 19, 2021). Copies of the Stormwater Management Bylaw and Regulations for Stormwater Management are provided in **Appendix A**. The Stormwater Management Bylaw provides the Town of Stoughton with adequate legal authority to:

- Prohibit illicit discharges,
- Investigate suspected illicit discharges,
- Eliminate illicit discharges, including discharges from properties not owned by or controlled by the MS4 that discharge into the MS4 system, and
- Implement appropriate enforcement procedures and actions.

SECTION 2.2 STATEMENT OF RESPONSIBILITIES

The Stoughton Public Works Department is the lead municipal agency responsible for implementing the IDDE program pursuant to the provisions of the Illicit Discharges to Storm Drainage System. Other agencies or departments with responsibility for aspects of the program include:

- Public Works Department – Paul Giffune
- Sewer Department – Phil McNulty
- Water Department – Phil McNulty
- Building Department – Jack Erikson
- Engineering Department – Marc J. Tisdelle (interim)
- Board of Health – Lawrence Perry
- Conservation Agent – James B. Conlon
- Planning Board – William D. Roth
- Town Manager – Thomas J. Calter
- Facilities Director – Paul Giffune
- Laurence W. Langlois – GIS Manager / Stormwater Coordinator
- School Facilities – Joyce Husseini
- Plumbing Inspector – Scott Angelos

SECTION 3 STORMWATER SYSTEM MAPPING

The Town of Stoughton originally developed mapping of its stormwater system to meet the mapping requirements of the 2003 MS4 Permit. The 2016 MS4 Permit requires a more detailed storm system map than was required by the 2003 MS4 Permit. The revised mapping is intended to facilitate the identification of key infrastructure, factors influencing proper system operation, and the potential for illicit discharges.

The 2016 MS4 Permit requires the storm system map to be updated in two phases as outlined below. The Public Works Department is responsible for updating the stormwater system mapping pursuant to the 2016 MS4 Permit. The Town of Stoughton reports on the progress towards completion of the storm system map in each annual report. Updates to the stormwater mapping are included in Appendix B.

SECTION 3.1 PHASE I MAPPING

Phase I mapping must be completed within two (2) years of the effective date of the permit (July 1, 2020) and include the following information:

- Outfalls and receiving waters (previously required by the MS4-2003 permit)
- Open channel conveyances (swales, ditches, etc.)
- Interconnections with other MS4s and other storm sewer systems
- Municipally owned stormwater treatment structures
- Water bodies identified by name and indication of all use impairments as identified on the most recent EPA approved Massachusetts Integrated List of Waters report
- Initial catchment delineations. Topographic contours and drainage system information may be used to produce initial catchment delineations.

The Town of Stoughton has completed all of the Phase I mapping.

The following table contains information regarding the total number of drainage structures mapped within the MS4 Urbanized Area in Stoughton. It has been compiled using data collected by the Town. A complete stormwater system mapbook is included in the Stoughton Operations and Maintenance (O&M) Plan as Attachment 1. The O&M Plan is attached to the Storwmater Management Plan as an appendix.

Table 3-1 Summary of Mapped MS4 Structures

Structure Type	Number of Structures
Outfalls	152
Inlets	115
Upland Outlets	409
Catch Basins	3,369
Drain Manholes	2,418
Stormwater BMPs	59
Drain Pipes	5,990
Swales	14

SECTION 3.2 PHASE II MAPPING

Phase II mapping must be completed within ten (10) years of the effective date of the permit (July 1, 2028) and include the following information:

- Outfall spatial location (latitude and longitude with a minimum accuracy of +/-30 feet)
- Pipes
- Manholes
- Catch basins
- Refined catchment delineations. Catchment delineations must be updated to reflect information collected during catchment investigations
- Municipal sanitary sewer system (if available/applicable)
- Municipal combined sewer system (if applicable)

The Town of Stoughton has completed the following updates to its stormwater mapping to meet the Phase II requirements:

- Outfall spatial location (complete)
- Pipes (mapping is ongoing)
- Manholes (mapping is ongoing)
- Catch basins (mapping is ongoing)
- Refined catchment delineations (completed as catchment investigations are completed)
- Municipal combined sewer system (none in Stoughton)
- Municipal sanitary sewer system (mapping is ongoing)

The Town of Stoughton will continue to update and improve its stormwater mapping throughtout the permit term.

SECTION 3.3 ADDITIONAL RECOMMENDED MAPPING ELEMENTS

Although not a requirement of the 2016 MS4 Permit, the Town of Stoughton will consider the following recommended elements in its storm system mapping:

- Storm sewer material, size (pipe diameter), age
- Sanitary sewer system material, size (pipe diameter), age (if/when applicable)
- Privately owned stormwater treatment structures
- Area where the permittee's MS4 has received or could receive flow from septic system discharges
- Seasonal high water table elevations impacting sanitary alignments
- Topography
- Orthophotography
- Alignments, dates and representation of work completed of past illicit discharge investigations
- Locations of suspected confirmed and corrected illicit discharges with dates and flow estimates

SECTION 4 SANITARY SEWER OVERFLOWS (SSOs)

The 2016 MS4 Permit requires municipalities to prohibit illicit discharges, including sanitary sewer overflows (SSOs), to the separate storm sewer system. SSOs are discharges of untreated sanitary wastewater from a municipal sanitary sewer that can contaminate surface waters, cause serious water quality problems and property damage, and threaten public health. SSOs can be caused by blockages, line breaks, sewer defects that allow stormwater and groundwater to overload the system, power failures, improper sewer design, and vandalism.

The Town of Stoughton has completed an inventory of SSOs that have discharged to the MS4 since five (5) years prior to the effective date of the 2016 MS4 Permit, based on a review of available documentation pertaining to SSOs. The inventory includes all SSOs that occurred during wet or dry weather resulting from inadequate conveyance capacities or where interconnectivity of the storm and sanitary sewer infrastructure allows for transfer of flow between systems. **Table 4-1** is provided below as reference for future use, if necessary.

Upon detection of an SSO, the Town of Stoughton will eliminate it as expeditiously as possible and take interim measures to minimize the discharge of pollutants to and from its MS4 until the SSO is eliminated. Upon becoming aware of an SSO to the MS4, the Town of Stoughton will provide oral notice to EPA within 24 hours and written notice to EPA and MassDEP within five (5) days of becoming aware of the SSO occurrence.

The inventory in **Table 4-1** is updated by the Public Works Department when new SSOs are detected. The SSO inventory is included in the annual report, including the status of mitigation and corrective measures to address each identified SSO.

Table 4-1 SSO Inventory Stoughton, Massachusetts Revision Date: September 2023

SSO Location[1]	Discharge Statement[2]	Date[3]	Time Start[3]	Time End[3]	Estimated Volume[4]	Description[5]	Mitigation Completed[6]	Mitigation Planned[7]
175 Campanelli Parkway	Ground surface (no release to surface water)	4/18/2023	2:40PM	5:00PM	1,500 gal	200 Shuman Avenue by-passed their temporary E-one pump/septic system due to pump failure	Yes	Yes

[1] Location (approximate street crossing/address and receiving water, if any)
[2] A clear statement of whether the discharge entered a surface water directly or entered the MS4
[3] Date(s) and time(s) of each known SSO occurrence (i.e., beginning and end of any known discharge)
[4] Estimated volume(s) of the occurrence
[5] Description of the occurrence indicating known or suspected cause(s)
[6] Mitigation and corrective measures completed with dates implemented
[7] Mitigation and corrective measures planned with implementation schedules

SECTION 5 ASSESSMENT AND PRIORITY RANKING OF OUTFALLS

The 2016 MS4 Permit requires an assessment and priority ranking of outfalls in terms of their potential to contain illicit discharges and SSOs. The ranking helps determine the priority order for performing IDDE investigations and meeting permit milestones.

SECTION 5.1 OUTFALL CATCHMENT DELINEATIONS

A catchment is the area that drains to an individual outfall or interconnection. The catchments for each of the MS4 outfalls have been delineated to define contributing areas for investigation of potential sources of illicit discharges. Catchments are typically delineated based on topographic contours and mapped drainage infrastructure, where available. As described in Section 3, initial catchment delineations were completed as part of the Phase I mapping, and refined catchment delineations will be completed as part of the Phase II mapping to reflect information collected during catchment investigations.

SECTION 5.2 OUTFALL AND INTERCONNECTION INVENTORY AND INITIAL RANKING

The Public Works Department completed an initial outfall and interconnection inventory and priority ranking to assess illicit discharge potential based on existing information. The initial inventory and ranking was completed within one (1) year from the effective date of the permit. The inventory is updated annually to include data collected in connection with dry weather screening and other relevant inspections. An updated inventory and ranking is provided in each annual report.

The outfall and interconnection inventory identifies each outfall and interconnection discharging from the MS4, records the structure location and condition, and provides a framework for tracking inspections, screenings, and other IDDE program activities.

Outfalls and interconnections are classified into one of the following categories:

1. Problem Outfalls: Outfalls/interconnections with known or suspected contributions of illicit discharges based on existing information shall be designated as Problem Outfalls. This shall include any outfalls/interconnections where previous screening indicates likely sewer input. Likely sewer input indicators are any of the following:

    - Olfactory or visual evidence of sewage,
    - Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and bacteria levels greater than the water quality criteria applicable to the receiving water, or
    - Ammonia ≥ 0.5 mg/L, surfactants ≥ 0.25 mg/L, and detectable levels of chlorine.

Dry weather screening and sampling, as described in **Section 6** of this IDDE Plan and Part 2.3.4.7.b of the MS4 Permit, is not required for Problem Outfalls.

Stoughton has one (1) Problem Outfalls

2. **High Priority Outfalls**: Outfalls/interconnections that have not been classified as Problem Outfalls and that are:

    - Discharging to an area of concern to public health due to proximity of public beaches, recreational areas, drinking water supplies or shellfish beds
    - Determined by the permittee as high priority based on the characteristics listed below or other available information

    Stoughton has 55 High Priority Outfalls

3. **Low Priority Outfalls**: Outfalls/interconnections determined by the permittee as low priority based on the characteristics listed below or other available information.

    Stoughton has 96 Low Priority Outfalls

4. **Excluded Outfalls**: Outfalls/interconnections with no potential for illicit discharges may be excluded from the IDDE program. This category is limited to roadway drainage in undeveloped areas with no dwellings and no sanitary sewers; drainage for athletic fields, parks, or undeveloped green space and associated parking without services; and cross-country drainage alignments (that neither cross nor are in proximity to sanitary sewer alignments) through undeveloped land.

    Stoughton has no Excluded Outfalls

Outfalls are ranked into the above priority categories (except for excluded outfalls, which are excluded from the IDDE program) based on the following characteristics of the defined initial catchment areas, where information is available. Additional relevant characteristics, including location-specific characteristics, may be considered but must be documented in this IDDE Plan. The initial ranking was based upon response provided by the Town of Stoughton in May 2019, and the updated ranking was based on those results and additional information provided by the Town and observed in the field. These characteristics considered include:

- **Previous screening results** – Previous screening/sampling results indicate likely sewer input (see criteria above for Problem Outfalls).
    - Four MS4 outfalls screened in 2016.
    - All remaining outfalls were screened in 2021 and 2022.
- **Past discharge complaints and reports**
    - No complaints provided.
- **Poor receiving water quality** – The following guidelines are recommended to identify waters as having a high illicit discharge potential:
    - Exceeding water quality standards for bacteria,

    - Ammonia levels above 0.5 mg/L, or
    - Surfactants levels greater than or equal to 0.25 mg/L.
- **Density of generating sites** – Generating sites are those places, including institutional, municipal, commercial, or industrial sites, with a potential to generate pollutants that could contribute to illicit discharges. Examples of these sites include, but are not limited to, car dealers; car washes; gas stations; garden centers; and industrial manufacturing areas.
    - Gas stations, car washes, garden centers, car dealerships, and industrial areas were found within catchments: B, J, K, M, N, O, Q, R, S, T, U, V, X, Y, AB, AF, AO, AP.
- **Age of development and infrastructure** – Industrial areas greater than 40 years old and areas where the sanitary sewer system is more than 40 years old may have a high illicit discharge potential. Developments 20 years or younger may have a low illicit discharge potential.
    - Built date from Assessor parcel mapping showed an even distribution that leaned more towards an age of 40+ years old.
- **Sewer conversion** – Contributing catchment areas that were once serviced by septic systems, but have since been converted to sewer connections may have a high illicit discharge potential.
    - The Park Street/Turnpike Street area is being converted from septic to sewer.
- **Historic combined sewer systems** – Contributing areas that were once serviced by a combined sewer system, but have since been separated may have a high illicit discharge potential.
    - Stoughton has never had a combined sewer system.
- **Surrounding density of aging septic systems** – Septic systems 30 years or older in residential land use areas are prone to have failures and may have a high illicit discharge potential.
    - Septic install database from Board of Health showed newer septic installs event distributed throughout the Town.
- **Culverted streams** – Any river or stream that is culverted for distances greater than a simple roadway crossing may have a high illicit discharge potential.
    - No information provided directly from Town. Some culverted streams have been noted in the field during outfall screenings and now are incorporated into this ranking.
- **Water quality limited water bodies** – Impaired waters and/or waters with approved TMDL(s) that receive discharge from the MS4 have a high illicit discharge potential if the discharges could contain the pollutant identified as the cause of the water quality impairment.
    - Impaired water bodies are listed in **Table 1-1**.

The Town has updated the initial outfall priority ranking matrix based on screening and sampling completed since the initial ranking was developed. The screening and sampling and updates to the ranking table are discussed further in **Section 6.4** and **Section 6.5**. The updated outfall priority ranking matrix and catchment delineation mapping is included in **Appendix C**.

SECTION 6 DRY WEATHER OUTFALL SCREENING AND SAMPLING

Dry weather flow is a common indicator of potential illicit connections. The MS4 Permit requires all outfalls/interconnections (excluding Problem and Excluded Outfalls) to be inspected for the presence of dry weather flow. The Public Works Department, or hired representatives, are responsible for conducting dry weather outfall screening, starting with High Priority outfalls, followed by Low Priority outfalls, based on the initial priority rankings described in the previous section.

SECTION 6.1 WEATHER CONDITIONS

Dry weather outfall screening and sampling may occur when no more than 0.1 inches of rainfall has occurred in the previous 24-hour period and no significant snow melt is occurring. For purposes of determining dry weather conditions, program staff can use precipitation data from the Stoughton Municipal Airport Weather Station (Station ID KGHG). If the Stoughton Municipal Airport Weather Station is not available or not reporting current weather data, then the Ocean Bluff Weather Station (Station ID KMAMARSH132) can be used as a back-up.

SECTION 6.2 DRY WEATHER SCREENING/SAMPLING PROCEDURE

Section 6.2.1 General Procedure

The dry weather outfall inspection and sampling procedure consists of the following general steps:

1. Identify outfall(s) to be screened/sampled based on initial outfall inventory and priority ranking.
2. Acquire the necessary staff, mapping, and field equipment (see **Table 6-1** for list of potential field equipment).
3. Conduct the outfall inspection during dry weather:
    a. Mark and photograph the outfall.
    b. Record the inspection information and outfall characteristics (using paper forms or digital form using a tablet or similar device) (see form in **Appendix D**).
    c. Look for and record visual/olfactory evidence of pollutants in flowing outfalls including odor, color, turbidity, and floatable matter (suds, bubbles, excrement, toilet paper, or sanitary products). Also, observe outfalls for deposits and stains, vegetation, and damage to outfall structures.
4. If flow is observed, sample and test the flow following the procedures described in the following sections.
5. If no flow is observed, but evidence of illicit flow exists (illicit discharges are often intermittent or transitory), revisit the outfall during dry weather within one week of the initial observation, if practicable, to perform a second dry weather screening and sample any

observed flow. Other techniques can be used to detect intermittent or transitory flows including conducting inspections during evenings or weekends and using optical brighteners.

6. Input results from screening and sampling into spreadsheet/database. Include pertinent information in the outfall/interconnection inventory and priority ranking.
7. Include all screening data in the annual report.

Previous outfall screening/sampling conducted under the 2003 MS4 Permit may be used to satisfy the dry weather outfall/screening requirements of the 2016 MS4 Permit only if the previous screening and sampling was substantially equivalent to that required by the 2016 MS4 Permit, including the list of analytes outlined in Section 2.3.4.7.b.iii.4 of the 2016 permit.

Section 6.2.2 Field Equipment

Table 6-1 lists field equipment commonly used for dry weather outfall screening and sampling.

Table 6-1 Field Equipment – Dry Weather Outfall Screening and Sampling

Equipment	Use/Notes
Clipboard	For organization of field sheets and writing surface
Field Sheets	Field sheets for both dry weather inspection and dry weather sampling should be available with extras
Chain of Custody Forms	To ensure proper handling of all samples
Pens/Pencils/Permanent Markers	For proper labeling
Nitrile Gloves	To protect the sampler as well as the sample from contamination
Flashlight/headlamp with Batteries	For looking in outfalls or manholes, helpful in early mornings as well
Cooler with Ice	For transporting samples to the laboratory
Digital Camera	For documenting field conditions at time of inspection
Personal Protective Equipment (PPE)	Reflective vest, safety glasses, and boots at a minimum
GPS Receiver	For taking spatial location data
Water Quality Sonde	If needed, for sampling conductivity, temperature, pH
Water Quality Meter	Handheld meter, if available, for testing for various water quality parameters such as ammonia, surfactants, and chlorine
Test Kits	Have extra kits on hand to sample more outfalls than are anticipated to be screened in a single day
Label Tape	For labeling sample containers
Sample Containers	Make sure all sample containers are clean. Keep extra sample containers on hand at all times. Make sure there are proper sample containers for what is being sampled for (e.g., bacteria requires sterile containers)

Equipment	Use/Notes
Pry Bar or Pick	For opening catch basins and manholes when necessary
Sandbags	For damming low flows in order to take samples
Small Mallet or Hammer	Helping to free stuck manhole and catch basin covers
Utility Knife	Multiple uses
Measuring Tape	Measuring distances and depth of flow
Safety Cones	Safety
Hand Sanitizer	Disinfectant/decontaminant
Zip Ties/Duct Tape	For making field repairs
Rubber Boots/Waders	For accessing shallow streams/areas
Sampling Pole/Dipper/Sampling Cage	For accessing hard to reach outfalls and manholes

Section 6.2.3 Sample Collection and Analysis

If flow is present during a dry weather outfall inspection, a sample must be collected and analyzed for the required permit parameters listed in **Table 6-2**. The general procedure for collection of outfall samples is as follows:

1. Fill out all sample information on sample bottles and field sheets (see **Appendix D** for Field Sheets).
2. Put on protective gloves (nitrile/latex/other) before sampling.
3. Collect sample with dipper or directly in sample containers. If possible, collect water from the flow directly in the sample bottle. Be careful not to disturb sediments.
4. If using a dipper or other device, triple rinse the device with distilled water and then in water to be sampled (not for bacteria sampling).
5. Use test strips, test kits, and field meters (rinse similar to dipper) for most parameters (see **Table 6-2**).
6. Place laboratory samples on ice for analysis of bacteria and pollutants of concern.
7. Fill out chain-of-custody form for laboratory samples.
8. Deliver samples to Massachusetts state certified laboratory.
9. Dispose of used test strips and test kit ampules properly.
10. Decontaminate all testing personnel and equipment.

In the event that an outfall is submerged, either partially or completely, or inaccessible, field staff can proceed to the first accessible upstream manhole or structure for the observation and sampling and report the location with the screening results. Field staff must continue to the next upstream structure until there is no longer an influence from the receiving water on the visual inspection or sampling.

Field test kits or field instrumentation are permitted for all parameters except indicator bacteria and any pollutants of concern. Field kits need to have appropriate detection limits and ranges. **Table 6-2**

lists various field test kits and field instruments that can be used for outfall sampling associated with the 2016 MS4 Permit parameters, other than indicator bacteria and any pollutants of concern.

Table 6-2 Field Screening Parameters and Analysis Methods

Analyte or Parameter	Instrumentation (Portable Meter)	Field Test Kit
Ammonia	CHEMetrics™ V-2000 Colorimeter Hach™ DR/890 Colorimeter Hach™ Pocket Colorimeter™ II	CHEMetrics™ K-1410 CHEMetrics™ K-1510 (series) Hach™ NI-SA Hach™ Ammonia Test Strips
Surfactants (Detergents)	CHEMetrics™ I-2017	CHEMetrics™ K-9400 and K-9404 Hach™ DE-2
Chlorine	CHEMetrics™ V-2000, K-2513 Hach™ Pocket Colorimeter™ II	NA
Conductivity	CHEMetrics™ I-1200 YSI Pro30 YSI EC300A Oakton 450	NA
Temperature	YSI Pro30 YSI EC300A Oakton 450	NA
Salinity	YSI Pro30 YSI EC300A Oakton 450	NA
Dissolved Oxygen	YSI Pro30 YSI EC300A Oakton 450	NA
Turbidity	Hach™ 2100Q Portable Turbidimeter Oakton CON 150	NA

[1] Where the stormwater discharges directly into a water quality limited water or a water subject to an approved TMDL, the sample must be analyzed for the pollutant(s) of concern identified as the cause of the water quality impairment.

Testing for indicator bacteria and any pollutants of concern must be conducted using analytical methods and procedures found in 40 CFR § 136. Samples for laboratory analysis must also be stored and preserved in accordance with procedures found in 40 CFR § 136. **Table 6-3** lists analytical methods, detection limits, hold times, and preservatives for laboratory analysis of dry weather sampling parameters.

Table 6-3 Required Analytical Methods, Detection Limits, Hold Times, and Preservatives

Analyte or Parameter	Analytical Method	Detection Limit	Max. Hold Time	Preservative
Ammonia	**EPA**: 350.2 **SM**: 4500-NH3C	0.05 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2, No preservative required if analyzed immediately
Surfactants	**SM**: 5540-C	0.01 mg/L	48 hours	Cool ≤6°C
Chlorine	**SM**: 4500-Cl G	0.02 mg/L	Analyze within 15 minutes	None Required
Temperature	**SM**: 2550B	*NA*	Immediate	None Required
Specific Conductance	**EPA**: 120.1 **SM**: 2510B	0.2 µs/cm	28 days	Cool ≤6°C
Salinity	**SM**: 2520	-	28 days	Cool ≤6°C
Biochemical Oxygen Demand (BOD)	**EPA:** 360.1	**EPA:** 3 mg/L	48 hours	Cool ≤6°C
Dissolved Oxygen	**EPA:** 365.1	**EPA:** 1 mg/L	Immediate	Cool ≤6°C
Turbidity	**EPA:** 160.2	**EPA:** 1 NTU	48 hours	Cool ≤6°C
Indicator Bacteria: *E.coli* *Enterococcus* *Fecal Coliform*	*E.coli* **EPA**: 1603 **SM**: 9221B, 9221F , 9223 B **Other**: Colilert®, Colilert-18® *Enterococcus* **EPA**: 1600 **SM**: 9230 C **Other**: Enterolert® *Fecal Coliform* **EPA:** 1680	*E.coli* **EPA**: 1 cfu/100mL **SM**: 2 MPN/100mL **Other**: 1 MPN/100mL *Enterococcus* **EPA**: 1 cfu/100mL **SM**: 1 MPN/100mL **Other**: 1 MPN/100mL *Fecal Coliform* **EPA:** 1 ctu	8 hours	Cool ≤10°C, 0.0008% $Na_2S_2O_3$
Total Phosphorus	**EPA**: Manual-365.3, Automated Ascorbic acid digestion-365.1 Rev. 2, ICP/AES4-200.7 Rev. 4.4 **SM**: 4500-P E-F	**EPA**: 0.01 mg/L **SM** : 0.01 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2

Analyte or Parameter	Analytical Method	Detection Limit	Max. Hold Time	Preservative
Total Nitrogen (Ammonia + Nitrate/Nitrite, methods are for Nitrate-Nitrite and need to be combined with Ammonia listed above.)	**EPA**: Cadmium reduction (automated)-353.2 Rev. 2.0, **SM**: 4500-NO_3 E-F	**EPA**: 0.05 mg/L **SM** : 0.05 mg/L	28 days	Cool ≤6°C, H_2SO_4 to pH <2

40 CFR § 136: http://www.ecfr.gov/cgi-bin/text idx?SID=b3b41fdea0b7b0b8cd6c4304d86271b7&mc=true&node=pt40.25.136&rgn=div5
SM = Standard Methods

SECTION 6.3 INTERPRETING OUTFALL SAMPLING RESULTS

Outfall analytical data from dry weather sampling can be used to help identify the major type or source of discharge. **Table 6-4** shows values identified by the EPA and the Center for Watershed Protection as typical screening values for select parameters. These represent the typical concentration (or value) of each parameter expected to be found in stormwater. Screening values that exceed these benchmarks may be indicative of pollution and/or illicit discharges.

Table 6-4 Benchmark Field Measurements for Select Parameters

Analyte or Parameter	Benchmark
Ammonia	>0.5 mg/L
Conductivity	>2,000 µS/cm
Surfactants	>0.25 mg/L
Chlorine	>0.02 mg/L (detectable levels per the 2016 MS4 Permit)
Indicator Bacteria: *E.coli* *Enterococcus*	*E.coli*: the geometric mean of the five most recent samples taken during the same bathing season shall not exceed 126 colonies per 100 mL and no single sample taken during the bathing season shall exceed 235 colonies per 100 mL *Enterococcus:* the geometric mean of the five most recent samples taken during the same bathing season shall not exceed 33 colonies per 100 mL and no single sample taken during the bathing season shall exceed 61 colonies per 100 mL

SECTION 6.4 DRY WEATHER WORK COMPLETED TO DATE

The Town's outfall inventory contained 219 outfalls when the NOI was submitted in 2018. Town field staff, or hired representatives, screened many outfalls as part of the 2003 MS4 Permit, and since the start of the new 2016 MS4 Permit, the Town has completed dry weather screening of the remaining outfalls. Screenings were completed over the course of six (6) days in May 2020, May 2021, and June 2021. Based on field observations, the Town removed 72 structures from the Town's outfall inventory because the structures were verified as culvert outlets/inlets, the drainage network changed since the original mapping was completed, or the structure is privately maintained.

In 2022, the Town further improved their outfall inventory. In this round of updates, 47 outfalls were removed from the inventory and 11 outfalls were added. Structures were removed based on roadway and drainage ownership, a comparison with the 2022 Massachusetts Department of Transportation GIS data and outfall inventory, and separate stormwater mapping updates including BMP identification. *The Town's current MS4 outfall inventory includes 147 outfalls*. All the outfalls have been screened, and the screening and sampling results are attached in Appendix E.

SECTION 6.5 FOLLOW-UP RANKING OF OUTFALLS AND INTERCONNECTIONS

The Town of Stoughton is responsible for updating the ranking of outfalls and interconnections. Outfalls/interconnections where relevant information is found indicating sewer input to the MS4 or sampling results indicating sewer input are highly likely to contain illicit discharges from sanitary sources. Such outfalls/interconnections are ranked at the top of the High Priority Outfalls category for investigation. Other outfalls and interconnections may be re-ranked based on any new information from the dry weather screening.

The Town updated and re-prioritized the initial outfall rankings based on information gathered during dry weather screening over the first five (5) years of the permit term (June 30, 2023). The outfall ranking table did not significantly change. During FY23 Catchment Investigations, 15 new MS4 outfalls were identified and added to the Town's outfall inventory. The location of the outfalls and catchment rankings are summarized in Table 6-5.

Table 6-5 Location and Catchment Priority of Newly found Outfalls

Outfall ID	Catchment ID	Address	Receiving Water	Catchment Ranking
OF-105A	HW	100 Campanelli Parkway	Lovett Brook	Low
OF-105B	HW	100 Campanelli Parkway	Lovett Brook	Low
OF-192	AV	63 York Street	Beaver Meadow Brook	Low
OF-553O-1	HW	1782 West Street	Ames Long Pond	High
OF-553S-1	HW	1782 West Street	Ames Long Pond	High
OF-553S-2	HW	1782 West Street	Ames Long Pond	High
OF-553S-3	HW	1782 West Street	Ames Long Pond	High
OF-553S-4	HX	1782 West Street	Ames Long Pond	High
OF-553S-5	B	1782 West Street	Ames Long Pond	High
OF-553S-6	B	1782 West Street	Ames Long Pond	High
OF-560	IB	144 West Street	Town Pond	Low
OF-560S	IB	144 West Street	Town Pond	Low
OF-643	JP	18 Fitzpatrick Street	Coweeset Brook	Low
OF-812	HW	1098 Turnpike Street	Beaver Pond	Low
OF-813	KL	20 Maple Street	Unnamed Tributary To Beaver Brook	Low

After completing FY23 Catchment Investigations and re-evaluating the Town's outfall inventory, the new MS4 outfall count as of 2023 was 152. The updated ranking table is attached as **Appendix C.**

SECTION 7 CATCHMENT INVESTIGATIONS

Once stormwater outfalls with evidence of illicit discharges have been identified, various methods can be used to trace the source of the potential discharge within the outfall catchment area. Catchment investigation techniques include, but are not limited to, review of maps, historic plans, and records; manhole observation; dry and wet weather sampling; video inspection; smoke testing; and dye testing. This section outlines a systematic procedure to investigate outfall catchments to trace the source of potential illicit discharges. All data collected as part of the catchment investigations is recorded and reported in each annual report.

SECTION 7.1 SYSTEM VULNERABILITY FACTORS

The Public Works Department has reviewed relevant mapping and historic plans and records to identify areas within the catchment with higher potential for illicit connections. The following information has been reviewed:

- Plans related to the construction of the drainage network
- Plans related to the construction of the sewer network
- Prior work on storm drains or sewer lines
- Board of Health or other municipal data on septic systems
- Complaint records related to SSOs
- Septic system breakouts

Based on the review of this information, the presence of any of the following **System Vulnerability Factors (SVFs)** have been identified for each catchment and will continue to be evaluated. The following are required SVFs to be considered:

- History of SSOs, including, but not limited to, those resulting from wet weather, high water table, or fat/oil/grease blockages
- Common or twin-invert manholes serving storm and sanitary sewer alignments
- Common trench construction serving both storm and sanitary sewer alignments
- Crossings of storm and sanitary sewer alignments where the sanitary system is shallower than the storm drain system
- Sanitary sewer alignments known or suspected to have been constructed with an underdrain system
- Inadequate sanitary sewer level of service (LOS) resulting in regular surcharging, customer back-ups, or frequent customer complaints
- Areas formerly served by combined sewer systems
- 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

The following are optional SVFs the EPA recommends considering:

- Any storm drain infrastructure greater than 40 years old
- Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)
- History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)
- Sewer pump/lift stations, siphons, or known sanitary sewer restrictions where power/equipment failures or blockages could readily result in SSOs
- Any sanitary sewer infrastructure greater than 40 years old

The Town has completed an SVF inventory for catchments visited during catchment investigations. The SVF inventory for these catchments is documented in **Appendix F** and will be updates as more SVFs are identified and more catchments investigated. The SVF inventory will be included in each annual report.

SECTION 7.2 DRY WEATHER MANHOLE INSPECTIONS

The Town of Stoughton has implemented a dry weather storm drain network investigation that involves systematically and progressively observing, sampling, and evaluating key junction manholes in the MS4 to determine the approximate location of suspected illicit discharges or SSOs.

The Public Works Department is responsible for implementing the dry weather manhole inspection program and making updates as necessary. Infrastructure information is incorporated into the storm system map and catchment delineations are refined based on field investigation, where necessary. The SVF inventory will also be updated based on information obtained during the field investigations, where necessary.

Several important terms related to the dry weather manhole inspection program are defined by the MS4 Permit as follows:

- **Junction Manhole** is a manhole or structure with two or more inlets accepting flow from two or more MS4 alignments. Manholes with inlets solely from private storm drains, individual catch basins, or both are not considered junction manholes for these purposes.
- **Key Junction Manholes** are those junction manholes that can represent one or more junction manholes without compromising adequate implementation of the illicit discharge program. Adequate implementation of the illicit discharge program would not be compromised if the exclusion of a particular junction manhole as a key junction manhole would not affect the permittee's ability to determine the possible presence of an upstream illicit discharge. A permittee may exclude a junction manhole located upstream from another located in the immediate vicinity or that is serving a drainage alignment with no potential for illicit connections.

For all catchments identified for investigation, during dry weather, field crews systematically inspect key junction manholes for evidence of illicit discharges. This program involves progressive inspection and sampling at manholes in the storm drain network to isolate and eliminate illicit discharges.

The manhole inspection methodology is conducted in one of two ways (or a combination of both):

- By working progressively up from the outfall and inspecting key junction manholes along the way, or
- By working progressively down from the upper parts of the catchment toward the outfall.

For most catchments, manhole inspections proceed from the outfall moving up into the system.

However, the decision to move up or down the system depends on the nature of the drainage system and the surrounding land use and the availability of information on the catchment and drainage system. Moving up the system can begin immediately when an illicit discharge is detected at an outfall, and only a map of the storm drain system is required. Moving down the system requires more advance preparation and reliable drainage system information on the upstream segments of the storm drain system, but may be more efficient if the sources of illicit discharges are believed to be located in the upstream portions of the catchment area. Once a manhole inspection methodology has been selected, investigations will continue systematically through the catchment.

Inspection of key junction manholes proceeds as follows:

1. Manholes are opened and inspected for visual and olfactory evidence of illicit connections. A sample field inspection form is provided in Appendix D.
2. If flow is observed, a sample is collected and analyzed at a minimum for ammonia, chlorine, and surfactants. Field kits can be used for these analyses. Sampling and analysis are in accordance with procedures outlined in Section 6. Additional indicator sampling may assist in determining potential sources (e.g., bacteria for sanitary flows, conductivity to detect tidal backwater, etc.).
3. Where sampling results or visual or olfactory evidence indicate potential illicit discharges or SSOs, the area draining to the junction manhole is flagged for further upstream manhole investigation and/or isolation and confirmation of sources.
4. Subsequent key junction manhole inspections proceed until the location of suspected illicit discharges or SSOs can be isolated to a pipe segment between two manholes.
5. If no evidence of an illicit discharge is found, catchment investigations are considered complete upon completion of key junction manhole sampling.

SECTION 7.3 WET WEATHER OUTFALL SAMPLING

Where a minimum of one (1) System Vulnerability Factor (SVF) is identified based on previous information or the catchment investigation, a wet weather investigation must also be conducted at the associated outfall. The Public Works Department is responsible for implementing the wet weather outfall sampling program and making updates as necessary. Wet weather sampling has begun in Stoughton and sampling results are located within Appendix E.

Outfalls are inspected and sampled under wet weather conditions, to the extent necessary, to determine whether wet weather-induced high flows in sanitary sewers or high groundwater in areas served by septic systems result in discharges of sanitary flow to the MS4.

Wet weather outfall sampling proceeds as follows:

1. At least one wet weather sample is collected at the outfall for the same parameters required during dry weather screening.
2. Wet weather sampling occurs during or after a storm event of sufficient depth or intensity to produce a stormwater discharge at the outfall. There is no specific rainfall amount that triggers sampling, although minimum storm event intensities that are likely to trigger sanitary sewer interconnections are preferred. To the extent feasible, sampling occurs during the spring (March through June) when groundwater levels are relatively high.
3. If wet weather outfall sampling indicates a potential illicit discharge, then additional wet weather source sampling is performed, as warranted, or source isolation and confirmation procedures is followed as described in **Section 7.4**.
4. If wet weather outfall sampling does not identify evidence of illicit discharges, and no evidence of an illicit discharge is found during dry weather manhole inspections, catchment investigations are considered complete.

SECTION 7.4 SOURCE ISOLATION AND CONFIRMATION

Once the source of an illicit discharge is approximated between two manholes, more detailed investigation techniques are used to isolate and confirm the source of the illicit discharge. The following methods are used in isolating and confirming the source of illicit discharges:

- Sandbagging
- Smoke Testing
- Dye Testing
- CCTV/Video Inspections
- Optical Brightener Monitoring
- IDDE Canines

These methods are described in the sections below. Instructions for these and other IDDE methods are provided in **Appendix G**.

Public notification is an important aspect of a detailed source investigation program. Prior to smoke testing, dye testing, or TV inspections, the Public Works Department will notify property owners in the affected area. Smoke testing notification will include hanging notifications for single family homes and posting notifications in businesses and building lobbies of multi-family dwellings.

Section 7.4.1 Sandbagging

This technique can be particularly useful when attempting to isolate intermittent illicit discharges or those with very little perceptible flow. The technique involves placing sandbags or similar barriers (e.g., caulking, weirs/plates, or other temporary barriers) within outlets to manholes to form a temporary dam that collects any intermittent flows that may occur. Sandbags are typically left in place for 48 hours and should only be installed when dry weather is forecasted. If flow has collected behind the sandbags/barriers after 48 hours, it can be assessed using visual observations or by sampling. If no flow collects behind the sandbags/barriers, the upstream pipe network can be ruled out as a source of the intermittent discharge. Finding appropriate durations of dry weather and the need for multiple trips to each manhole makes this method both time-consuming and somewhat limiting.

Section 7.4.2 Smoke Testing

Smoke testing involves injecting non-toxic smoke into drain lines and noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the system itself. Typically, a smoke bomb or smoke generator is used to inject the smoke into the system at a catch basin or manhole, and air is then forced through the system. Test personnel are placed in areas where there are suspected illegal connections or cracks/leaks, noting any escape of smoke (indicating an illicit connection or damaged storm drain infrastructure). It is important when using this technique to make proper notifications to area residents and business owners as well as local police and fire departments.

If the initial test of the storm drain system is unsuccessful, then a more thorough smoke test of the sanitary sewer lines can also be performed. Unlike storm drain smoke tests, buildings that do not emit smoke during sanitary sewer smoke tests may have problem connections and may also have sewer gas venting inside, which is hazardous.

It should be noted that smoke may cause minor irritation of respiratory passages. Residents with respiratory conditions may need to be monitored or evacuated from the area of testing altogether to ensure safety during testing.

Section 7.4.3 Dye Testing

Dye testing involves flushing non-toxic dye into plumbing fixtures such as toilets, showers, and sinks and observing nearby storm drains and sewer manholes as well as stormwater outfalls for the presence of the dye. Similar to smoke testing, it is important to inform local residents and business owners. Police, fire, and local public health staff should also be notified prior to testing in preparation of responding to citizen phone calls concerning the dye and their presence in local surface waters.

A team of two or more people is needed to perform dye testing (ideally, all with two-way radios). One person is inside the building, while the others are stationed at the appropriate storm sewer and sanitary sewer manholes (which should be opened) and/or outfalls. The person inside the building adds dye into a plumbing fixture (e.g., toilet or sink) and runs a sufficient amount of water to move the dye through the plumbing system. The person inside the building then radios to the outside

crew that the dye has been dropped, and the outside crew watches for the dye in the storm sewer and sanitary sewer, recording the presence or absence of the dye.

The test can be relatively quick (about 30 minutes per test), effective (results are usually definitive), and inexpensive. Dye testing is best used when the likely source of an illicit discharge has been narrowed down to a few specific houses or businesses.

Section 7.4.4 CCTV/Video Inspection

Another method of source isolation involves the use of mobile video cameras that are guided remotely through stormwater drain lines to observe possible illicit discharges. IDDE program staff can review the videos and note any visible illicit discharges. While this tool is both effective and usually definitive, it can be costly and time-consuming when compared to other source isolation techniques.

Section 7.4.5 Optical Brightener Monitoring

Optical brighteners are fluorescent dyes that are used in detergents and paper products to enhance their appearance. The presence of optical brighteners in surface waters or dry weather discharges suggests there is a possible illicit discharge or insufficient removal through adsorption in nearby septic systems or wastewater treatment. Optical brightener monitoring can be done in two ways. The most common, and least expensive, methodology involves placing a cotton pad in a wire cage and securing it in a pipe, manhole, catch basin, or inlet to capture intermittent dry weather flows. The pad is retrieved at a later date and placed under UV light to determine the presence/absence of brighteners during the monitoring period. A second methodology uses handheld fluorometers to detect optical brighteners in water sample collected from outfalls or ambient surface waters. Use of a fluorometer, while more quantitative, is typically more costly and is not as effective at isolating intermittent discharges as other source isolation techniques.

Section 7.4.6 IDDE Canines

Dogs specifically trained to smell human-related sewage are becoming a cost-effective way to isolate and identify sources of illicit discharges. While not widespread at the moment, the use of IDDE canines is growing as is the canines' accuracy. The use of IDDE canines is not recommended as a standalone practice for source identification; rather it is recommended as a tool to supplement other conventional methods, such as dye testing, in order to fully verify sources of illicit discharges.

SECTION 7.5 ILLICIT DISCHARGE REMOVAL

When the specific source of an illicit discharge is identified, the Town of Stoughton will exercise its authority as necessary to require its removal. The annual report will include the status of IDDE investigation and removal activities including the following information for each confirmed source:

- The location of the discharge and its source(s)
- A description of the discharge
- The method of discovery

- Date of discovery
- Date of elimination, mitigation, or enforcement action OR planned corrective measures and a schedule for completing the illicit discharge removal
- Estimate of the volume of flow removed

Section 7.5.1 Confirmatory Outfall Screening

Within one (1) year of removal of all identified illicit discharges within a catchment area, confirmatory outfall or interconnection screening will be conducted. The confirmatory screening will be conducted in dry weather unless System Vulnerability Factors have been identified, in which case both dry weather and wet weather confirmatory screening will be conducted. If confirmatory screening indicates evidence of additional illicit discharges, the catchment will be scheduled for additional investigation.

SECTION 7.6 ONGOING SCREENING

Upon completion of all catchment investigations and illicit discharge removal and confirmation (if necessary), each outfall or interconnection will be re-prioritized for screening and scheduled for ongoing screening once every five (5) years. Ongoing screening will consist of dry weather screening and sampling consistent with the procedures described in **Section 6** of this plan. Ongoing wet weather screening and sampling will also be conducted at outfalls where wet weather screening was required due to System Vulnerability Factors and will be conducted in accordance with the procedures described in **Section 7.3**. All sampling results will be reported in the annual report.

SECTION 8 TRAINING

Annual IDDE training is made available to all employees involved in the IDDE program. This training includes information on how to identify illicit discharges and SSOs and may also include additional training specific to the functions of particular personnel and their function within the framework of the IDDE program. Training records are and will continue to be maintained. A training attendance log is included in **Appendix H**. The frequency and type of training is included in the annual report.

SECTION 9 PROGRESS REPORTING

The progress and success of the IDDE program is evaluated on an annual basis. The evaluation is documented in the annual report and includes the following indicators of program progress:

- Number of SSOs and illicit discharges identified and removed
- Number and percent of total outfall catchments served by the MS4 evaluated using the catchment investigation procedure
- Number of dry weather outfall inspections/screenings
- Number of wet weather outfall inspections/sampling events
- Number of enforcement notices issued
- All dry weather and wet weather screening and sampling results
- Estimate of the volume of sewage removed, as applicable
- Number of employees trained annually

The success of the IDDE program is measured by the IDDE activities completed within the required permit timelines.

APPENDIX A

Legal Authority (IDDE By-law or Ordinance)

Chapter 159

STORMWATER MANAGEMENT

GENERAL REFERENCES

Groundwater protection -- See Ch. 107.

Hazardous waste -- See Ch. 113.

Streets and sidewalks -- See Ch. 162.

Water -- See Ch. 188.

Wetlands protection -- See Ch. 191.

Zoning -- See Ch. 191.

Conservation Commission -- See Ch. 287.

§ 159-1. Objectives.

A. Increased and contaminated stormwater runoff is a major cause of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; and flooding.

B. Regulation of illicit connections and discharges to the municipal storm drain system is necessary for the protection of Stoughton's water bodies and groundwater, and to safeguard the public health, safety, welfare and the environment.

C. The harmful impacts of soil erosion and sedimentation are the impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater; contamination of drinking water supplies; alteration or destruction of aquatic and wildlife habitat; flooding; and overloading or clogging of municipal catch basins and storm drainage systems.

D. Increased and contaminated stormwater runoff associated with developed land uses and the accompanying increase in impervious surface are major causes of impairment of water quality and flow in lakes, ponds, streams, rivers, wetlands and groundwater.

E. The objectives of this bylaw are:

(1) To prevent pollutants from entering Stoughton's municipal separate storm sewer system (MS4);

(2) To prohibit illicit connections and unauthorized discharges to the MS4;

(3) To require the removal of all such illicit connections;

(4) To comply with state and federal statutes and regulations relating to stormwater discharges; and

(5) To establish the legal authority to ensure compliance with the provisions of this bylaw through inspection, monitoring, and enforcement;

(6) To require practices that eliminate soil erosion and sedimentation and control the volume and rate of stormwater runoff resulting from land disturbance activities;

(7) To promote infiltration and the recharge of groundwater;

(8) To ensure that soil erosion and sedimentation control measures and stormwater runoff control practices are incorporated into the site planning and design process and are implemented and maintained;

(9) To require practices to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(10) To require practices to control the flow of stormwater from new and redeveloped sites into the Stoughton storm drainage system in order to prevent flooding and erosion;

(11) To protect groundwater and surface water from degradation;

(12) To ensure adequate long-term operation and maintenance of structural stormwater best management practices so that they work as designed.

§ 159-2. Definitions.

For the purposes of this bylaw, the following shall mean:

ABUTTER — The owner(s) of land abutting the activity.

AGRICULTURE — The normal maintenance or improvement of land in agricultural or aquacultural use, as defined by the Massachusetts Wetlands Protection Act and its implementing regulations.

ALTERATION OF DRAINAGE CHARACTERISTICS — Any activity on an area of land that changes the water quality, force, direction, timing or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and change in the recharge to groundwater on the area.

APPLICANT — Any person, individual, partnership, association, firm, company, corporation, trust, authority, agency, department, or political subdivision, of the commonwealth or the federal government to the extent permitted by law, requesting a soil erosion and sediment control permit for proposed land-disturbance activity.

AUTHORIZED ENFORCEMENT AGENCY — The Stoughton Board of Selectmen, acting as Drain Commissioners (hereafter the Board), its employees or agents designated to enforce this bylaw.

BEST MANAGEMENT PRACTICE (BMP) — An activity, procedure, restraint, or structural improvement that helps to reduce the quantity or improve the quality of stormwater runoff.

CERTIFIED PROFESSIONAL IN EROSION AND SEDIMENT CONTROL (CPESC) — A certified specialist in soil erosion and sediment control. This certification program, sponsored by the Soil and Water Conservation Society in cooperation with the American Society of Agronomy, provides the public with evidence of professional qualifications.

CLEAN WATER ACT — The Federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.) as hereafter amended.

CLEARING — Any activity that removes the vegetative surface cover.

CONSTRUCTION AND WASTE MATERIALS — Excess or discarded building or site materials, including but not limited to concrete truck washout, chemicals, litter and sanitary waste, at a construction site that may adversely impact water quality.

DEVELOPMENT — The modification of land to accommodate a new use or expansion of use, usually involving construction.

DISCHARGE OF POLLUTANTS — The addition from any source of any pollutant or combination of pollutants into the municipal storm drain system or into the waters of the United States or commonwealth from any source.

DISTURBANCE OF LAND — Any action that causes a change in the position, location, or arrangement of soil, sand, rock, gravel or similar earth material.

EROSION — The wearing away of the land surface by natural or artificial forces such as wind, water, ice, gravity, or vehicle traffic and the subsequent detachment and transportation of soil particles.

EROSION AND SEDIMENTATION CONTROL PLAN — A document containing narrative, drawings and details developed by a qualified professional engineer (PE) or a certified professional in erosion and sediment control (CPESC) which includes best management practices or equivalent measures designed to control surface runoff, erosion and sedimentation during preconstruction and construction-related land disturbance activities.

ESTIMATED HABITAT OF RARE WILDLIFE AND CERTIFIED VERNAL POOLS — Habitats delineated for state-protected rare wildlife and certified vernal pools for use with the Wetlands Protection Act Regulations (310 CMR 10.00) and the Forest Cutting Practices Act Regulations (304 CMR 11.00).

GROUNDWATER — Water beneath the surface of the ground.

ILLICIT CONNECTION — A surface or subsurface drain or conveyance which allows an illicit discharge into the municipal storm drain system,

including without limitation sewage, process wastewater, or wash water, and any connections from indoor drains, sinks, or toilets, regardless of whether said connection was previously allowed, permitted, or approved before the effective date of this bylaw.

ILLICIT DISCHARGE — Direct or indirect discharge to the municipal storm drain system that is not composed entirely of stormwater, except as exempted in § 157-7. The term does not include a discharge in compliance with an NPDES Storm Water Discharge Permit or a surface water discharge permit, or resulting from fire-fighting activities exempted pursuant to § 159-7D of this bylaw.

IMPERVIOUS SURFACE — Any material or structure on or above the ground that prevents water infiltrating the underlying soil. Impervious surface includes without limitation roads, paved parking lots, sidewalks, and rooftops.

LAND-DISTURBING ACTIVITY — Any activity that causes a change in the position or location of soil, sand, rock, gravel, or similar earth material.

MASSACHUSETTS ENDANGERED SPECIES ACT — MGL c. 131A and its implementing regulations at 321 CMR 10.00 which prohibit the taking of any rare plant or animal species listed as endangered, threatened, or of special concern.

MASSACHUSETTS STORMWATER MANAGEMENT POLICY — The policy issued by the Department of Environmental Protection, and as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act MGL c. 131, § 40, and Massachusetts Clean Waters Act MGL c. 21, §§ 23 through 56. The policy addresses stormwater impacts through implementation of performance standards to reduce or prevent pollutants from reaching water bodies and control the quantity of runoff from a site.

MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4) OR MUNICIPAL STORM DRAIN SYSTEM — The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structure that together comprise the storm drainage system owned or operated by the Town of Stoughton.

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER DISCHARGE PERMIT — A permit issued by United States Environmental Protection Agency or jointly with the state that authorizes the discharge of pollutants to waters of the United States.

NON-STORMWATER DISCHARGE — Discharge to the municipal storm drain system not composed entirely of stormwater.

OPERATION AND MAINTENANCE PLAN — A plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to insure that it continues to function as designed.

OUTFALL — The point at which stormwater flows out from a point source discernible, confined and discrete conveyance into waters of the commonwealth.

OUTSTANDING RESOURCE WATERS (ORWs) — Waters designated by the Massachusetts Department of Environmental Protection as ORWs. These waters have exceptional sociologic, recreational, ecological and/or aesthetic values and are subject to more stringent requirements under both the Massachusetts Water Quality Standards (314 CMR 4.00)[1] and the Massachusetts Stormwater Management Standards. ORWs include vernal pools certified by the Natural Heritage Program of the Massachusetts Department of Fisheries and Wildlife and Environmental Law Enforcement, all Class A designated public water supplies with their bordering vegetated wetlands, and other waters specifically designated.

OWNER — A person with a legal or equitable interest in property.

PERSON — An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

POINT SOURCE — Any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

POLLUTANT — Any element or property of sewage, agricultural, industrial or commercial waste, runoff, leachate, heated effluent, or other matter, whether originating at a point or nonpoint source, that is or may be introduced into any sewage treatment works or waters of the commonwealth. Pollutants shall include without limitation:

A. Paints, varnishes, and solvents;

B. Oil and other automotive fluids;

C. Nonhazardous liquid and solid wastes and yard wastes;

D. Refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordnances, accumulations and floatables;

E. Pesticides, herbicides, and fertilizers;

F. Hazardous materials and wastes; sewage, fecal coliform and pathogens;

G. Dissolved and particulate metals;

H. Animal wastes;

I. Rock, sand, salt, soils;

---

1. Editor's Note: The Massachusetts Surface Water Quality Standards.

J. Construction wastes and residues; and

K. Any noxious or offensive matter of any kind.

PRECONSTRUCTION — All activity in preparation for construction.

PRIORITY HABITAT OF RARE SPECIES — Habitats delineated for rare plant and animal populations protected pursuant to the Massachusetts Endangered Species Act and its regulations.

PROCESS WASTEWATER — Water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any material, intermediate product, finished product, or waste product.

RECHARGE — The process by which groundwater is replenished by precipitation through the percolation of runoff and surface water through the soil.

REDEVELOPMENT — Development, rehabilitation, expansion, demolition or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.

RUNOFF — Rainfall, snowmelt, or irrigation water flowing over the ground surface.

SEDIMENT — Mineral or organic soil material that is transported by wind or water, from its origin to another location; the product of erosion processes.

SEDIMENTATION — The process or act of deposition of sediment.

SLOPE — The incline of a ground surface expressed as a ratio of horizontal distance to vertical distance.

SOIL — Any earth, sand, rock, gravel, or similar material.

STABILIZATION — The use, singly or in combination, of mechanical, structural, or vegetative methods, to prevent or retard erosion.

STORMWATER — Stormwater runoff, snowmelt runoff, and surface water runoff and drainage.

STORMWATER MANAGEMENT PLAN — A plan required as part of the application for a Stormwater Management Permit. See § 159-9.

STRIP — Any activity which removes the vegetative ground surface cover, including tree removal, clearing, grubbing, and storage or removal of topsoil.

SURFACE WATER DISCHARGE PERMIT — A permit issued by the Department of Environmental Protection (DEP) pursuant to 314 CMR 3.00 that authorizes the discharge of pollutants to waters of the commonwealth of Massachusetts.

TOXIC OR HAZARDOUS MATERIAL OR WASTE — Any material, which because of its quantity, concentration, chemical, corrosive, flammable, reactive, toxic, infectious or radioactive characteristics, either separately

or in combination with any substance or substances, constitutes a present or potential threat to human health, safety, welfare, or to the environment. Toxic or hazardous materials include any synthetic organic chemical, petroleum product, heavy metal, radioactive or infectious waste, acid and alkali, and any substance defined as toxic or hazardous under MGL c. 21C and c. 21E and the regulations at 310 CMR 30.000 and 310 CMR 40.0000.

TSS — Total suspended solids.

VERNAL POOLS — Temporary bodies of freshwater which provide critical habitat for a number of vertebrate and invertebrate wildlife species.

WASTEWATER — Any sanitary waste, sludge, or septic tank or cesspool overflow, and water that during manufacturing, cleaning or processing comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, by-product or waste product.

WATERCOURSE — A natural or man-made channel through which water flows or a stream of water, including a river, brook or underground stream.

WATERS OF THE COMMONWEALTH — All waters within the jurisdiction of the commonwealth, including, without limitation, rivers, streams, lakes, ponds, springs, impoundments, estuaries, wetlands, appropriational waters, and groundwater.

WETLAND RESOURCE AREA — Areas specified in the Massachusetts Wetlands Protection Act MGL c. 131, § 40, and in the Town of Stoughton Wetlands Protection Bylaw.

WETLANDS — Tidal and nontidal areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water-based) environments, including freshwater marshes around ponds and channels (rivers and streams), brackish and salt marshes; common names include marshes, swamps and bogs.

§ 159-3. Authority.

This bylaw is adopted under the authority granted by the Home Rule Amendment of the Massachusetts Constitution and the Home Rule Procedures Act, and pursuant to the regulations of the federal Clean Water Act found at 40 CFR 122.34.

§ 159-4. Responsibility for administration.

The Board shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to employees or agents of the Board.

§ 159-5. (Reserved)

§ 159-6. Regulations.

The Board may promulgate rules and regulations to effectuate the purposes of this bylaw. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this bylaw.

§ 159-7. Discharges to the municipal storm drain system.

A. Applicability. This bylaw shall apply to flows entering the municipally owned storm drainage system.

B. Prohibited activities.

(1) Illicit discharges. No person shall dump, discharge, cause or allow to be discharged any pollutant or non-stormwater discharge into the municipal separate storm sewer system (MS4), into a watercourse, or into the waters of the commonwealth.

(2) Illicit connections. No person shall construct, use, allow, maintain or continue any illicit connection to the municipal storm drain system, regardless of whether the connection was permissible under applicable law, regulation or custom at the time of connection.

(3) Obstruction of municipal storm drain system. No person shall obstruct or interfere with the normal flow of stormwater into or out of the municipal storm drain system without prior written approval from the Board.

C. Exemptions.

(1) Discharge or flow resulting from fire-fighting activities.

(2) The following non-stormwater discharges or flows are exempt from the prohibition of non-stormwaters provided that the source is not a significant contributor of a pollutant to the municipal storm drain system:

(a) Waterline flushing;

(b) Flow from potable water sources;

(c) Springs;

(d) Natural flow from riparian habitats and wetlands;

(e) Diverted stream flow;

(f) Rising groundwater;

(g) Uncontaminated groundwater infiltration as defined in 40 CFR 35.2005(20), or uncontaminated pumped groundwater;

(h) Water from exterior foundation drains, footing drains (not including active groundwater dewatering systems), crawl space pumps, or air-conditioning condensation;

(i) Discharge from landscape irrigation or lawn watering;

(j) Water from individual residential car washing;

(k) Discharge from dechlorinated swimming pool water (less than one ppm chlorine), provided the water is allowed to stand for one week prior to draining and the pool is drained in such a way as not to cause a nuisance;

(l) Discharge from street sweeping;

(m) Dye testing, provided verbal notification is given to the Board prior to the time of the test;

(n) Non-stormwater discharge permitted under an NPDES permit or a surface water discharge permit, waiver, or waste discharge order administered under the authority of the United States Environmental Protection Agency or the Department of Environmental Protection, provided that the discharge is in full compliance with the requirements of the permit, waiver, or order and applicable laws and regulations; and

(o) Discharge for which advanced written approval is received from the Board as necessary to protect public health, safety, welfare or the environment.

D. Emergency suspension of storm drainage system access. The Board may suspend municipal storm drain system access to any person or property without prior written notice when such suspension is necessary to stop an actual or threatened discharge of pollutants that presents imminent risk of harm to the public health, safety, welfare or the environment. In the event any person fails to comply with an emergency suspension order, the authorized enforcement agency may take all reasonable steps to prevent or minimize harm to the public health, safety, welfare or the environment.

E. Notification of spills. Notwithstanding other requirements of local, state or federal law, as soon as a person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of or suspects a release of materials at that facility or operation resulting in or which may result in discharge of pollutants to the municipal drainage system or waters of the commonwealth, the person shall take all necessary steps to ensure containment and cleanup of the release. In the event of a release of oil or hazardous materials, the person shall immediately notify the municipal Fire and Police Departments. In the event of a release of nonhazardous material, the reporting person shall notify the authorized

enforcement agency no later than the next business day. The reporting person shall provide to the authorized enforcement agency written confirmation of all telephone, facsimile or in-person notifications within three business days thereafter. If the discharge of prohibited materials is from a commercial or industrial facility, the facility owner or operator of the facility shall retain on site a written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

F. Transitional provisions. Residential property owners shall have 30 days from the effective date of the bylaw to comply with its provisions, provided good cause is shown for the failure to comply with the bylaw during that period.

§ 159-8. Stormwater management and land disturbance.

A. Applicability.

(1) This bylaw shall apply to all activities that result in disturbance of one or more acres of land that drains to the municipal separate storm sewer system.

(2) Except as authorized by the Board in a land disturbance permit or as otherwise provided in this bylaw, no person shall perform any activity that results in disturbance of an acre or more of land. Normal maintenance and improvement of land in agricultural or aquacultural use, as defined by the Wetlands Protection Act regulation 310 CMR 10.4, are exempt. In addition, as authorized in the Phase II small MS4 general permit for Massachusetts, stormwater discharges resulting from the above activities that are subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an order of conditions issued by the Conservation Commission are exempt from compliance with this bylaw.

B. Responsibility for administration.

(1) The Board shall administer, implement and enforce this bylaw. Any powers granted to or duties imposed upon the Board may be delegated in writing by the Board to its employees or agents.

(2) Waiver. The Board may waive strict compliance with any requirement of this bylaw or the rules and regulations promulgated hereunder, where:

(a) Such action is allowed by federal, state and local statutes and/or regulations;

(b) Is in the public interest; and

(c) Is not inconsistent with the purpose and intent of this bylaw.

(3) Rules and regulations. The Board may adopt and periodically amend rules and regulations to effectuate the purposes of this bylaw. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this bylaw.

C. Permits and procedures.

(1) Application. A completed application for a land disturbance permit shall be filed with the Board. A permit must be obtained prior to the commencement of land-disturbing activity that may result in the disturbance of an area of one acre or more. The land disturbance permit application package shall follow the procedures outlined in the Site Plan Review Bylaw (available at the Stoughton Engineering Department).

(2) Entry. Filing an application for a permit grants the Board or its agent permission to enter the site to verify the information in the application and to inspect for compliance with permit conditions.

(3) Other boards. The Board shall notify the Town Clerk of receipt of the application and shall give one copy of the application package to each of the other relevant boards. The submission of a site plan review application shall be considered as a valid submission under this bylaw.

(4) Public hearing. The public hearing required in the Site Plan Review Bylaw shall be considered sufficient satisfaction of this requirement. In the event the proposed project does not require site plan review, the Board shall hold a public hearing within 21 days of the receipt of a complete application and take final action within 21 days from the time of closure of the public hearing, unless such time is extended by agreement between the applicant and the Board. Notice of the public hearing shall be given by publication and by first-class mailing to abutters at least seven days prior to the hearing. The Board shall make the application available for inspection by the public during business hours at the Town Hall, 10 Pearl Street.

(5) Information requests. The applicant shall submit all additional information requested by the Board to issue a decision on the application.

(6) Action by the Board. The Board may:

(a) Approve the land disturbance permit application and issue a permit if it finds that the proposed plan will protect water resources and meets the objectives and requirements of this bylaw;

(b) Approve the land disturbance permit application and issue a permit with conditions, modifications or restrictions that

the Board determines are required to ensure that the project will protect water resources and meets the objectives and requirements of this bylaw;

(c) Disapprove the land disturbance permit application and deny the permit if it finds that the proposed plan will not protect water resources or fails to meet the objectives and requirements of this bylaw.

(7) Failure of the Board to take final action. Failure of the Board to take final action upon an application within the time specified above shall be deemed to be approval of said application. Upon certification by the Town Clerk that the allowed time has passed without the Board action, the land disturbance permit shall be issued by the Board.

(8) Fee structure. Each application must be accompanied by the appropriate application fee as established by the Board. Applicants shall pay review fees as determined by the Board sufficient to cover any expenses connected with the public hearing and review of the land disturbance permit application before the review process commences. The Board is authorized to retain a registered professional engineer or other professional consultant to advise the Board on any or all aspects of the application.

(9) Project changes. The permittee, or their agent, must notify the Board in writing of any change or alteration of a land-disturbing activity authorized in a land disturbance permit before any change or alteration occurs. If the Board determines that the change or alteration is significant, based on the design requirements listed in § 159-8C(10)(b) and accepted construction practices, the Board may require that an amended land disturbance permit application be filed and a public hearing held. If any change or alteration from the land disturbance permit occurs during any land-disturbing activities, the Board may require the installation of interim erosion and sedimentation control measures before approving the change or alteration.

(10) Erosion and sediment control plan.

(a) The erosion and sediment control plan shall contain sufficient information to describe the nature and purpose of the proposed development, pertinent conditions of the site and the adjacent areas, and proposed erosion and sedimentation controls. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Subsection C(10)(b) below.

(b) The design requirements of the erosion and sediment control plan are:

[1] Minimize total area of disturbance;

[2] Sequence activities to minimize simultaneous areas of disturbance;

[3] Minimize peak rate of runoff in accordance with the Massachusetts Stormwater Policy;

[4] Minimize soil erosion and control sedimentation during construction, provided that prevention of erosion is preferred over sedimentation control;

[5] Divert uncontaminated water around disturbed areas;

[6] Maximize groundwater recharge;

[7] Install and maintain all erosion and sediment control measures in accordance with the manufacturer's specifications and good engineering practices;

[8] Prevent off-site transport of sediment;

[9] Protect and manage on- and off-site material storage areas (overburden and stockpiles of dirt, borrow areas, or other areas used solely by the permitted project are considered a part of the project); comply with applicable federal, state and local laws and regulations, including waste disposal, sanitary sewer or septic system regulations, and air quality requirements, including dust control;

[10] Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage and Endangered Species Program as endangered, threatened or of special concern, estimated habitats of rare wildlife and certified vernal pools, and priority habitats of rare species from the proposed activities;

[11] Institute interim and permanent stabilization measures, which shall be instituted on a disturbed area as soon as practicable but no more than 14 days after construction activity has temporarily or permanently ceased on that portion of the site;

[12] Properly manage on-site construction and waste materials; and

[13] Prevent off-site vehicle tracking of sediments.

(11) Erosion and sediment control plan content. The plan shall contain the information required by the Site Plan Review Bylaw.

(12) Inspection and site supervision.

(a) Preconstruction meeting. Prior to starting clearing, excavation, construction, or land-disturbing activity the applicant, the applicant's technical representative, the general contractor or any other person with authority to make changes to the project shall meet with the Board to review the permitted plans and their implementation.

(b) Board inspection. The Board or its designated agent shall make inspections as hereinafter required and shall either approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the land disturbance permit as approved. The permit and associated plans for grading, stripping, excavating, and filling work, bearing the signature of approval of the Board, shall be maintained at the site during the progress of the work. In order to obtain inspections, the permittee shall notify the Board at least two working days before each of the following events:

[1] Erosion and sediment control measures are in place and stabilized;

[2] Site clearing has been substantially completed;

[3] Rough grading has been substantially completed;

[4] Final grading has been substantially completed;

[5] Close of the construction season; and

[6] Final landscaping (permanent stabilization) and project final completion.

(c) Permittee inspections. The permittee or his/her agent shall conduct and document inspections of all control measures no less than weekly, or as specified in the permit, and prior to and following anticipated storm events. The purpose of such inspections will be to determine the overall effectiveness of the control plan and the need for maintenance or additional control measures. The permittee or his/her agent shall submit monthly reports to the Board or designated agent in a format approved by the Board.

(d) Access permission. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Board, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under this bylaw and may make or cause to be made such examinations, surveys or sampling as the Board deems reasonably necessary to determine compliance with the permit.

(13) Surety. the Board may require the permittee to post, before the start of land disturbance activity, a surety bond, irrevocable letter of credit, cash, or other acceptable security. The form of the bond shall be approved by Town Counsel and be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit, but the bond may not be fully released until the Board has received the final report as required by § 159-8C(14) and issued a certificate of completion.

(14) Final reports. Upon completion of the work, the permittee shall submit a report (including certified as-built construction plans) from a professional engineer (PE), surveyor, or certified professional in erosion and sediment control (CPESC), certifying that all erosion and sediment control devices, and approved changes and modifications, have been completed in accordance with the conditions of the approved permit. Any discrepancies should be noted in the cover letter.

(15) Certificate of completion. The issuing authority will issue a letter certifying completion upon receipt and approval of the final reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with this bylaw.

§ 159-9. Postconstruction stormwater management of new developments and redevelopments.

A. Applicability. No person may undertake a construction activity, including clearing, grading and excavation, that results in a land disturbance that will disturb equal to or greater than one acre of land or will disturb less than one acre of land but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than one acre of land draining to the Stoughton municipal separate storm sewer system without a permit from the Board. Construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity or the original purpose of the site.

B. Exemptions.

(1) Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.4;

(2) Maintenance of existing landscaping, gardens or lawn areas associated with a single-family dwelling;

(3) The construction of fencing that will not substantially alter existing terrain or drainage patterns;

(4) Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain or drainage patterns;

(5) As authorized in the Phase II small MS4 general permit for Massachusetts, stormwater discharges resulting from the activities identified in § 159-8A that are wholly subject to jurisdiction under the Wetlands Protection Act and demonstrate compliance with the Massachusetts Storm Water Management Policy as reflected in an order of conditions issued by the Conservation Commission are exempt from compliance with this bylaw.

C. Permits and procedure.

(1) The application for a stormwater management permit shall consist of submittal of a stormwater management plan to the Board. This stormwater management plan shall contain sufficient information for the Board to evaluate the environmental impact, effectiveness, and acceptability of the measures proposed by the applicant for reducing adverse impacts from stormwater. The plan shall be designed to meet the Massachusetts Stormwater Management Standards as set forth in Subsection C(2) of this section and DEP Stormwater Management Handbook Volumes I and II. The stormwater management plan shall fully describe the project in drawings, and narrative. It shall represent as-built conditions on the site being permitted and shall contain the following information:

(a) A locus map;

(b) The existing zoning and land use at the site;

(c) The location(s) of existing easements;

(d) The location of existing utilities;

(e) The site's final topography with contours at two-foot intervals;

(f) The site hydrology;

(g) A description and delineation of existing stormwater conveyances, impoundments, and wetlands on and adjacent to the site or into which stormwater flows;

(h) A delineation of one-hundred-year floodplains, if applicable;

(i) The existing vegetation and ground surfaces with runoff coefficients;

(j) A drainage area map showing postconstruction watershed boundaries, drainage area and stormwater flow paths;

(k) A description and drawings of all components of the drainage system, including:

[1] Locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization;

[2] All measures for the detention, retention or infiltration of water;

[3] All measures for the protection of water quality;

[4] The structural details for all components of the proposed drainage systems and stormwater management facilities;

[5] Notes on drawings specifying materials used, construction specifications, and typicals.

(l) Location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable;

(m) A maintenance schedule for the on-site drainage facilities;

(n) Any other information requested by the Board.

(2) Standards.

(a) Projects shall meet the standards of the Massachusetts Stormwater Management Policy, which currently are as follows:

[1] No new stormwater conveyances (e.g., outfalls) may discharge untreated stormwater directly to or cause erosion in wetlands or waters of the commonwealth.

[2] Stormwater management systems must be designed so that postdevelopment peak discharge rates do not exceed predevelopment peak discharge rates.

[3] Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the postdevelopment site should approximate the annual recharge rate from the predevelopment or existing site conditions, based on soil types.

[4] For new development, stormwater management systems must be designed to remove 80% of the average annual load (postdevelopment conditions) of total suspended solids (TSS). It is presumed that this standard is met when:

[a] Suitable nonstructural practices for source control and pollution prevention are implemented;

[b] Stormwater management best management practices (BMPs) are sized to capture the prescribed runoff volume; and

[c] Stormwater management BMPs are maintained as designed.

[5] Stormwater discharges from areas with higher potential pollutant loads require the use of specific stormwater management BMPs (see Stormwater Management Volume I: Stormwater Policy Handbook). The use of infiltration practices without pretreatment is prohibited.

[6] Stormwater discharges to critical areas must utilize certain stormwater management BMPs approved for critical areas (see Stormwater Management Volume I: Stormwater Policy Handbook). Critical areas are outstanding resource waters (ORWs), shellfish beds, swimming beaches, cold-water fisheries and recharge areas for public water supplies.

[7] Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

[8] Erosion and sediment controls must be implemented to prevent impacts during disturbance and construction activities.

[9] All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

(b) When one or more of the standards cannot be met, an applicant may demonstrate that an equivalent level of environmental protection will be provided.

D. Operation and maintenance plans. An operation and maintenance plan (O&M plan) is required at the time of application for all projects. The maintenance plan shall be designed to ensure compliance with the permit, this bylaw and that the Massachusetts Surface Water Quality Standards, 314 CMR 4.00, are met in all seasons and throughout the life of the system. The Board shall make the final decision of what maintenance option is appropriate in a given situation. The Board will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, the types of stormwater management structures, and potential need for ongoing maintenance activities when making this decision. The operation and maintenance plan shall remain on file with the Board, attached to the stormwater management plan, and shall be an ongoing requirement. The O&M Plan shall include:

(1) The name(s) of the owner(s) for all components of the system.

(2) Maintenance agreements that specify:

(a) The names and addresses of the person(s) responsible for operation and maintenance.

(b) The person(s) responsible for financing maintenance and emergency repairs.

(c) A maintenance schedule for all drainage structures, including swales and ponds.

(d) A list of easements with the purpose and location of each.

(e) The signature(s) of the owner(s).

(3) Stormwater management easement(s).

(a) Stormwater management easements shall be provided by the property owner(s) as necessary for:

[1] Access for facility inspections and maintenance.

[2] Preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the one-hundred-year storm event.

[3] Direct maintenance access by heavy equipment to structures requiring regular cleanout.

(b) The purpose of each easement shall be specified in the maintenance agreement signed by the property owner.

(c) Stormwater management easements are required for all areas used for off-site stormwater control, unless a waiver is granted by the Board.

(d) Easements shall be recorded with the Norfolk County Registry of Deeds prior to issuance of a certificate of completion by the Board.

E. Changes to operation and maintenance plans.

(1) The owner(s) of the stormwater management system must notify the Board of changes in ownership or assignment of financial responsibility.

(2) The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of this bylaw by mutual agreement of the Board and the responsible parties. Amendments must be in writing and signed by all responsible parties. Responsible parties shall include owner(s), persons with financial responsibility, and persons with operational responsibility.

F. Surety. The Board may require the permittee to post, before the start of land disturbance or construction activity, a surety bond, irrevocable

letter of credit, cash, or other acceptable security. The form of the bond shall be approved by Town Counsel and be in an amount deemed sufficient by the Board to ensure that the work will be completed in accordance with the permit. If the project is phased, the Board may release part of the bond as each phase is completed in compliance with the permit, but the bond may not be fully released until the Board has received the final inspection report as required by § 159-8C(14) and issued a certificate of completion.

G. Inspections. The Board shall inspect the project site at the following stages:

(1) Initial site inspection: prior to approval of any plan.

(2) Erosion control inspection: to ensure erosion control practices are in accord with the filed plan.

(3) Bury inspection: prior to backfilling of any underground drainage or stormwater conveyance structures.

(4) Final inspection.

(a) After the stormwater management system has been constructed and before the surety has been released, the applicant must submit a record plan detailing the actual stormwater management system as installed. The Board shall inspect the system to confirm its as-built features. This inspector shall also evaluate the effectiveness of the system in an actual storm. If the inspector finds the system to be adequate he shall so report to the Board, which will issue a certificate of completion.

(b) If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the stormwater management plan, it shall be corrected by the permittee before the performance guarantee is released. If the permittee fails to act, the Town may use the surety bond to complete the work. Examples of inadequacy shall be limited to errors in the infiltrative capability, errors in the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges from basins.

H. Waivers.

(1) The Board may waive strict compliance with any requirement of this bylaw or the rules and regulations promulgated hereunder, where;

(a) Such action is allowed by federal, state and local statutes and/or regulations,

(b) Is in the public interest; and

(c) Is not inconsistent with the purpose and intent of this bylaw.

(2) Any applicant may submit a written request to be granted such a waiver. Such a request shall be accompanied by an explanation or documentation supporting the waiver request and demonstrating that strict application of the bylaw does not further the purposes or objectives of this bylaw.

(3) All waiver requests shall be discussed and voted on at the public hearing for the project.

(4) If, in the Board's opinion, additional time or information is required for review of a waiver request, the Board may continue a hearing to a date certain announced at the meeting. In the event the applicant objects to a continuance or fails to provide requested information, the waiver request shall be denied.

I. Certificate of completion. The Board will issue a letter certifying completion upon receipt and approval of the final inspection reports and/or upon otherwise determining that all work of the permit has been satisfactorily completed in conformance with this bylaw.

J. Town acceptance of drainage and stormwater structures and systems. When a developer requests the Town to accept a drainage system, stormwater management system, and/or a detention basin for a subdivision of three or more housing units, or for a commercial/ industrial land development of one acre or larger, the Town shall have the option to refuse or accept it. If the Town accepts the basin or system, a contribution to the Stormwater Management Revolving Fund shall be made which shall be equal to $1,000 for each drainage/ stormwater management system and $2,500 for every acre or portion thereof in the detention basins to compensate the Town for ongoing maintenance. The minimum contribution for any system or basin, regardless of size, shall be $5,000.

§ 159-10. Enforcement.

The Board or an authorized agent of the Board shall enforce this bylaw, regulations, orders, violation notices, and enforcement orders, and may pursue all civil and criminal remedies for such violations.

A. Civil relief. If a person violates the provisions of this bylaw, regulations, permit, notice, or order issued thereunder, the Board may seek injunctive relief in a court of competent jurisdiction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

B. Orders.

(1) The Board or an authorized agent of the Board may issue a written order to enforce the provisions of this bylaw or the regulations thereunder, which may include:

(a) Elimination of illicit connections or discharges to the MS4;

(b) Performance of monitoring, analyses, and reporting;

(c) That unlawful discharges, practices, or operations shall cease and desist; and

(d) Remediation of contamination in connection therewith.

(2) If the enforcing person determines that abatement or remediation of contamination is required, the order shall set forth a deadline by which such abatement or remediation must be completed. Said order shall further advise that, should the violator or property owner fail to abate or perform remediation within the specified deadline, the Town may, at its option, undertake such work, and expenses thereof shall be charged to the violator.

(3) Within 30 days after completing all measures necessary to abate the violation or to perform remediation, the violator and the property owner will be notified of the appropriations incurred by the Town, including administrative appropriations. The violator or property owner may file a written protest objecting to the amount or basis of appropriations with the Board within 30 days of receipt of the notification of the appropriations incurred. If the amount due is not received by the expiration of the time in which to file a protest or within 30 days following a decision of the Board affirming or reducing the appropriations, or from a final decision of a court of competent jurisdiction, the appropriations shall become a special assessment against the property owner and shall constitute a lien on the owner's property for the amount of said appropriations. Interest shall begin to accrue on any unpaid appropriations at the statutory rate provided in MGL c. 59, § 57, after the 31st day at which the appropriations first become due.

C. Criminal penalty. Any person who violates any provision of this bylaw, regulation, order or permit issued thereunder shall be punished by a fine of not more than $100. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

D. Noncriminal disposition. As an alternative to criminal prosecution, the Town of Stoughton may elect to utilize the noncriminal disposition procedure set forth in MGL c. 40, § 21D. The Board, or its authorized agent, shall be the enforcing person. The penalty for the first violation shall be $100. The penalty for the second violation shall be $200. The penalty for the third and subsequent violations shall be $300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

E. Entry to perform duties under this bylaw. To the extent permitted by state law, or if authorized by the owner or other party in control of the property, the Board, its agents, officers, and employees may enter upon privately owned property for the purpose of performing their duties under this bylaw and regulations and may make or cause to be made such examinations, surveys or sampling as the Board deems reasonably necessary.

F. Appeals. The decisions or orders of the Board shall be final. Further relief shall be to a court of competent jurisdiction.

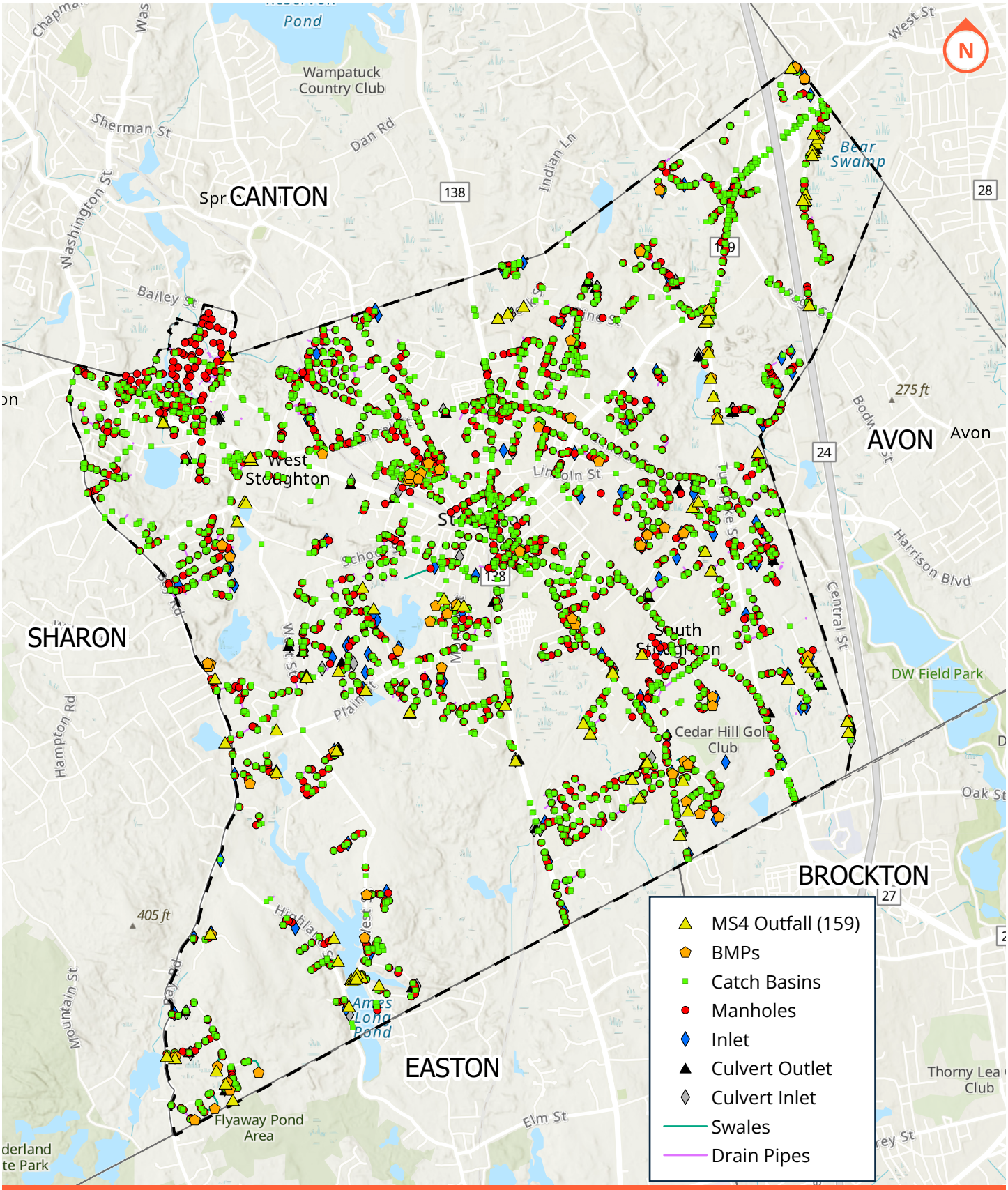
G. Remedies not exclusive. The remedies listed in this bylaw are not exclusive of any other remedies available under any applicable federal, state or local law.

§ 159-11. Severability.

The provisions of this bylaw are hereby declared to be severable. If any provision, paragraph, sentence, or clause of this bylaw or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this bylaw.

APPENDIX B

Stormwater System Mapping



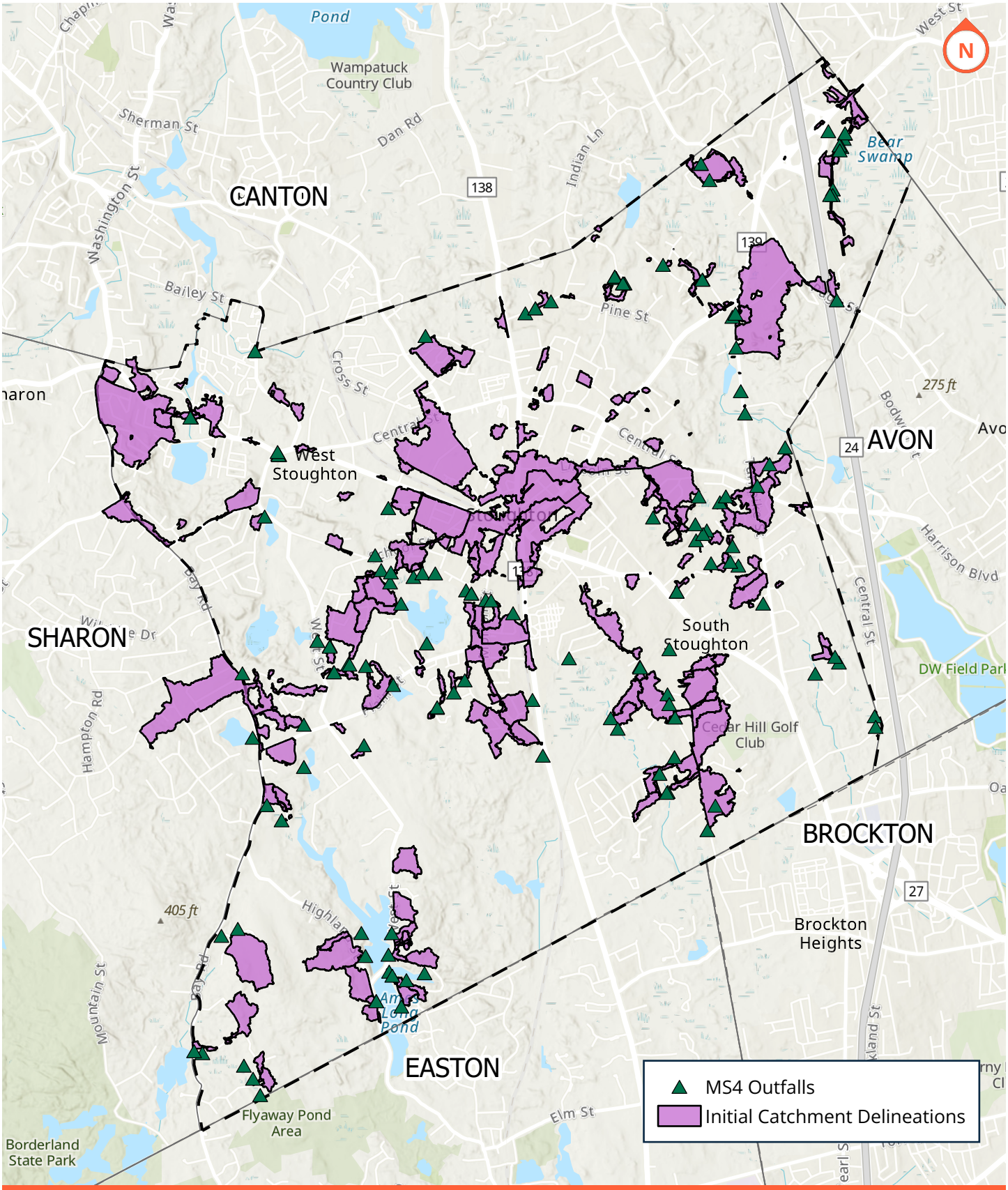
ENVIRONMENTAL PARTNERS
An Apex Company

Appendix B
Stormwater System
Stoughton, Massachusetts

0 2,500 5,000 10,000 Feet
1:50,000

APPENDIX C

Catchment Delineation Mapping and Ranking Matrix



ENVIRONMENTAL PARTNERS
— An Apex Company —

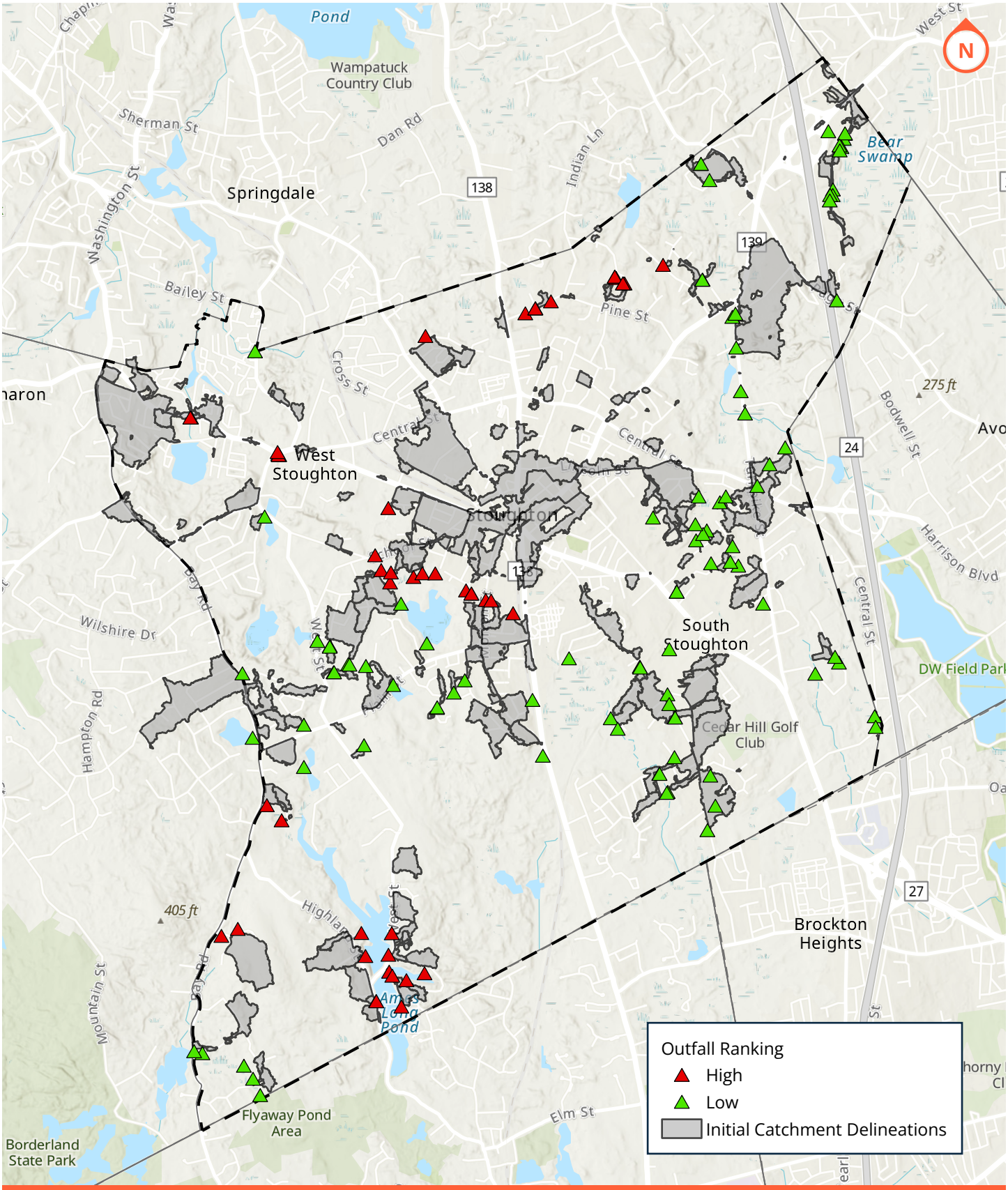
Appendix C

Initial Catchment Delineations

Stoughton, Massachusetts

0 2,500 5,000 10,000 Feet

1:50,000



ENVIRONMENTAL PARTNERS
— An Apex Company —

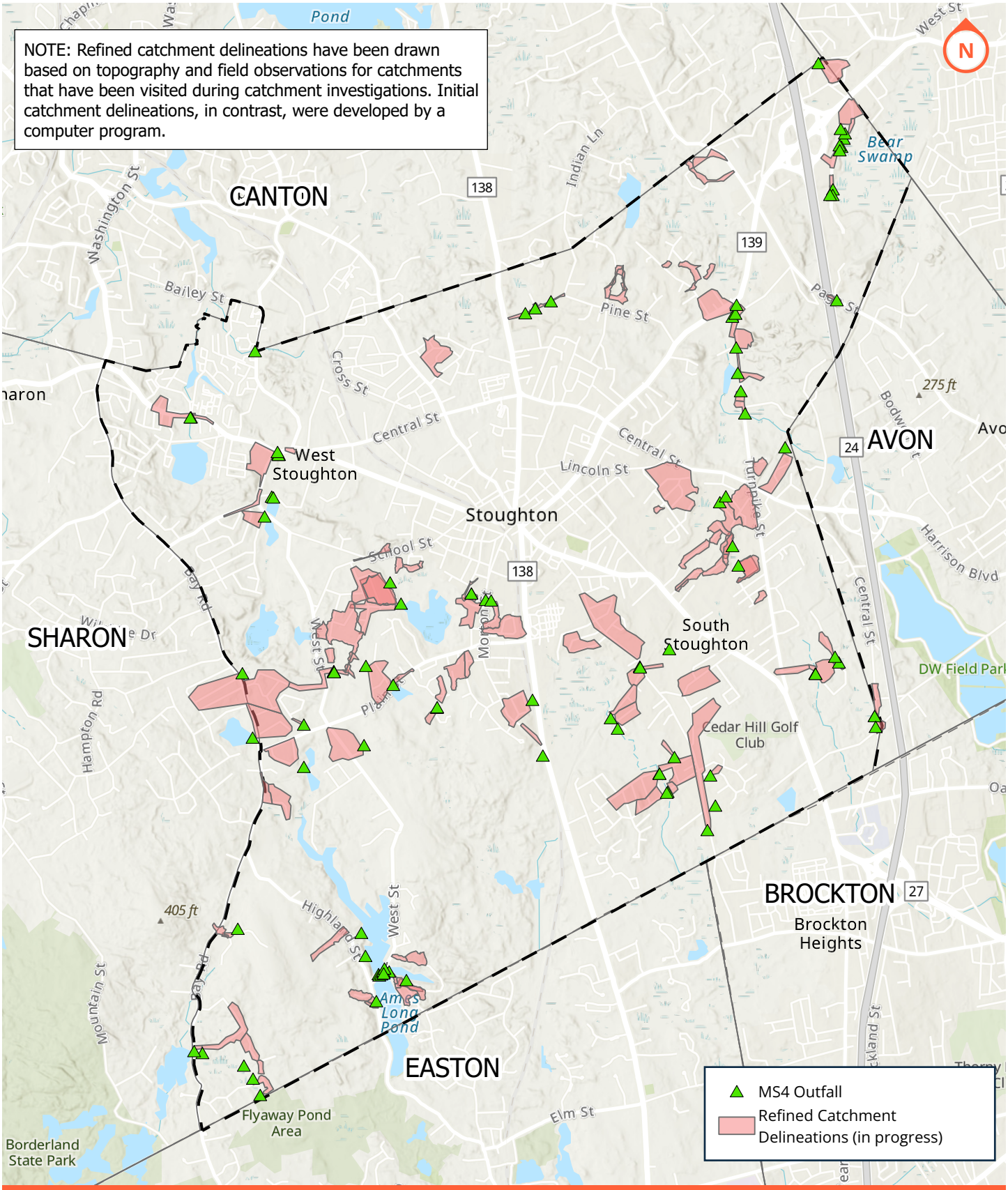
Appendix C

Catchment Ranking

Stoughton, Massachusetts

0 2,500 5,000 10,000 Feet

1:50,000



ENVIRONMENTAL PARTNERS
— An Apex Company —

Appendix C

Refined Catchment Delineations

Stoughton, Massachusetts

Stormwater Outfall Ranking Table

Stoughton, MA

September 2023

			Catchment Scores						Outfall Scores			IDDE Resits						
Catchment ID	**Receiving Water**	**Outfall ID**	**Density of Generating Sites**	**Age of Development/ Infrastructure**	**Historic Combined Sewers or Converted Septic?**	**Aging Septic?**	**Culverted Streams?**	**Discharging to Area of Concern to Public Health? (Catchment)**	**Previous Screening Results Indicate Likely Sewer Input?**	**Frequency of Past Discharge Complaints**	**Receiving Water Quality**				**Outfall Score**	**Catchment Score**	**Outfall Ranking ***	**Catchment Ranking ***
		Information Source	Land Use/GIS Maps, Aerial Photography, Google Earth	Land Use Information, Town Input	Town Input, GIS Maps	Parcel Age	GIS and Storm System Maps	GIS Maps, Town Input	Outfall inspections and sample results	Town Input	Impaired Waters List	2003 MS4 Permit Sampling Results	2016 MS4 Permit Sampling Results	Catchment Investigation Status				
		Scoring Criteria	High = 2 Medium = 1 Low = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Frequent = 2 Occasional = 1 None = 0	Category 4a = 2 Category 5 = 1 Others = 0							
B	Lovett Brook	OF-105	1	0	0	2	0	0	0	0	0		2020 - Dry	Complete	3	3	Low	Low
B	Lovett Brook	OF-105A (NEW)	1	0	0	2	0	0	0	0	0			Complete	3	3	Low	Low
B	Lovett Brook	OF-105B (NEW)	1	0	0	2	0	0	0	0	0			Complete	3	3	Low	Low
E	Unnamed Tributary to Beaver Brook	OF-108	0	0	0	0	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete	0	0	Low	Low
F	Unnamed Wetlands to Beaver Brook	OF-109	0	0	0	0	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete	0	0	Low	Low
J	Dorchester Brook	OF-113	0	0	0	0	0	0	0	0	0	2016 - Dry	2021 - Dry	Complete	0	0	Low	Low
Z	Unnamed Tributary near Woods Pond	OF-144	0	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	0	0	Low	Low
AC	Unnamed Tributary to Steep Hill Brook	OF-148	0	0	0	0	0	0	0	0	1	2016 - Dry	2019 - Sampled	Complete	1	1	High	Low
AF	Unnamed Tributary to Steep Hill Brook	OF-150	0	0	0	0	2	1	0	0	1	2016 - Flow	2019 - Dry	Complete	4	4	High	High
AG	Unnamed Tributary to Steep Hill Brook	OF-151	0	0	0	0	2	1	0	0	1	2016 - Dry	2019 - Dry	Planned	4	4	High	High
AH	Unnamed Tributary to Town Pond	OF-152	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
AH	Unnamed Tributary to Town Pond	OF-153	0	0	0	0	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete	0	0	Low	Low
AI	Unnamed Tributary to Town Pond	OF-154	0	0	0	0	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete - needs Town follow up	0	0	Low	Low
AK	Unnamed Tributary to Steep Hill Brook	OF-156	0	0	0	2	0	0	0	0	1		2019 - Dry	Complete	3	3	High	Low
AN	Unnamed Tributary to Ames Long Pond	OF-159	0	0	0	2	0	0	0	0	1	2016 - Dry	2019 - Dry	Complete	3	3	High	Low
AV	Beaver Meadow Brook	OF-192	0	0	0	0	0	0	0	0	1			Complete	1	1	High	Low
AW	Beaver Meadow Brook	OF-193	0	0	0	0	0	0	0	0	1	2016 - Dry	2019 - Dry	Complete	1	1	High	Low
AW	Beaver Meadow Brook	OF-195	0	0	0	0	0	0	0	0	1	2016 - Dry	2016 - Dry	Initial Investigation Complete	1	1	High	Low
BE	Ames Long Pond	OF-202	0	0	0	0	0	1	0	0	1		2021 - Dry	Complete	2	2	High	Low
BF	Ames Long Pond	OF-203	0	0	0	0	0	0	0	0	1		2021 - Dry	Complete	1	1	High	Low
BG	Ames Long Pond	OF-204	0	0	0	2	0	0	0	0	1		2021 - Dry	Complete	3	3	High	Low
BJ	Ames Long Pond	OF-207	0	0	0	2	0	0	0	0	1		2021 - Sampled	Complete	3	3	High	Low
BK	Unnamed Tributary to Town Pond	OF-209	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
BN	Ames Long Pond	OF-211	0	0	0	2	0	0	0	0	1		2021 - Sampled	Incomplete	3	3	High	Low
BR	Unnamed Tributary to Beaver Brook	OF-217	0	0	0	0	0	0	0	0	0		2021 - Dry	Incomplete	0	0	Low	Low
BU	Unnamed Tributary near Woods Pond	OF-226	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
BW	Unnamed Tributary to Dorchester Brook	OF-231	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
AA	Woods Pond	OF-242	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
CD	Unnamed Wetlands to Beaver Brook	OF-243	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
CE	Unnamed Wetlands to Beaver Brook	OF-244	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
CF	Unnamed Wetlands to Beaver Brook	OF-245	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
CG	Unnamed Tributary to Beaver Brook	OF-246	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
CH	Unnamed Tributary to Ames Long Pond	OF-249	0	0	0	2	0	0	0	0	1		2019 - Dry	Complete	3	3	High	Low
CI	Unnamed Tributary to Ames Long Pond	OF-251	0	0	0	2	0	0	0	0	1		2021 - Dry	Complete	3	3	High	Low
OE	Lovett Brook	OF-265	1	0	0	2	0	0	0	0	0			Planned			Low	Low
CR	Unnamed Tributary To Beaver Brook	OF-279	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
CV	Beaver Meadow Brook	OF-286	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
KF	Plain Street Pond	OF-300	0	0	0	2	0	0	0	0	0		2021 - Dry	Complete	2	2	Low	Low
DG	Unnamed Tributary To Beaver Brook	OF-304	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
DI	Beaver Meadow Brook	OF-306	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
DN	Woods Pond	OF-322	0	0	0	0	0	0	0	0	0		2021 - Sampled	Initial Investigation Complete	0	0	Low	Low
DO	Unnamed Tributary to Steep Hill Brook	OF-323	0	0	0	0	0	0	0	0	1		2019 - Sampled	Complete	1	1	High	Low
DP	Unnamed Tributary to Steep Hill Brook	OF-324	0	0	0	0	0	0	0	0	1		2021 - Sampled	Complete - needs Town follow up	1	1	High	Low
DS	Unnamed Wetlands to Three Swamp Brook	OF-330	0	0	0	2	0	0	0	0	0		2020 - Dry	Complete	2	2	Low	Low
DT	Unnamed Wetlands to Three Swamp Brook	OF-331	1	0	0	0	0	0	0	0	0		2020 - Dry	Complete	1	1	Low	Low
DU	Beaver Meadow Brook	OF-334	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
DJ	Unnamed Tributary to Town Pond	OF-342	0	0	0	2	0	0	0	0	0		2021 - Dry	Complete	2	2	Low	Low
EC	Unnamed Tributary to Steep Hill Brook	OF-350	0	0	0	0	0	0	0	0	1		2019 - Dry	Incomplete	1	1	High	Low
ED	Unnamed Tributary to Ames Long Pond	OF-351	0	0	0	2	0	0	0	0	1		2021 - Dry	Complete	3	3	High	Low
EE	Unnamed Wetlands to Three Swamp Brook	OF-354	0	0	0	2	0	0	0	0	0		2020 - Dry	Complete	2	2	Low	Low
EF	Unnamed Wetlands to Three Swamp Brook	OF-355	1	0	0	2	0	0	0	0	0		2020 - Dry	Complete	3	3	Low	Low
EG	Unnamed Wetlands to Three Swamp Brook	OF-356	1	0	0	0	0	0	0	0	0		2020 - Dry	Complete	1	1	Low	Low
EH	Unnamed Wetlands to Three Swamp Brook	OF-357	1	0	0	0	0	0	0	0	0		2020 - Dry	Complete	1	1	Low	Low
EI	Unnamed Wetlands to Three Swamp Brook	OF-358	1	0	0	2	0	0	0	0	0		2020 - Dry	Complete	3	3	Low	Low
EJ	Unnamed Wetlands to Three Swamp Brook	OF-359	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
EN	Unnamed Wetlands to Beaver Brook	OF-366	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low

Outfalls dischraging to Category 4a, 4c, or 5 waterbodies are ranked High

Outfalls with sampling indicating likely sewer input are ranked High

ENVIRONMENTAL PARTNERS
— An Apex Company —

Stormwater Outfall Ranking Table
Stoughton, MA
September 2023

Catchment ID	Receiving Water	Outfall ID	Density of Generating Sites	Age of Development/ Infrastructure	Historic Combined Sewers or Converted Septic?	Aging Septic?	Culverted Streams?	Discharging to Area of Concern to Public Health? (Catchment)	Previous Screening Results Indicate Likely Sewer Input?	Frequency of Past Discharge Complaints	Receiving Water Quality	IDDE Resits			Outfall Score	Catchment Score	Outfall Ranking *	Catchment Ranking *
Information Source			Land Use/GIS Maps, Aerial Photography, Google Earth	Land Use Information, Town Input	Town Input, GIS Maps	Parcel Age	GIS and Storm System Maps	GIS Maps, Town Input	Outfall inspections and sample results	Town Input	Impaired Waters List	2003 MS4 Permit Sampling Results	2016 MS4 Permit Sampling Results	Catchment Investigation Status				
Scoring Criteria			High = 2 Medium = 1 Low = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Frequent = 2 Occasional = 1 None = 0	Category 4a = 2 Category 5 = 1 Others = 0							
EO	Unnamed Wetlands to Beaver Brook	OF-367	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
EU	Ames Long Pond	OF-376	0	0	0	2	0	1	0	0	1		2019 - Dry	Complete	4	4	High	High
EV	Ames Long Pond	OF-378	0	0	0	2	0	1	0	0	1		2021 - Sampled	Complete	4	4	High	High
EW	Beaver Meadow Brook	OF-38	0	0	0	0	0	0	0	0	1	2016 - Dry	2019 - Dry	Complete	1	1	High	Low
EX	Unnamed Tributary to Dorchester Brook	OF-380	0	0	0	0	0	0	0	0	0		2021 - Dry	Initial Investigation Complete	0	0	Low	Low
EZ	Beaver Meadow Brook	OF-39	0	0	0	0	0	0	0	0	1	2016 - Dry	2019 - Dry	Complete	1	1	High	Low
GJ	Briggs Pond	OF-399	0	0	0	2	0	0	0	0	0		2020 - Dry	Complete	2	2	Low	Low
FG	Unnamed Tributary to Beaver Meadow Brook	OF-42	0	0	0	0	0	0	0	0	1	2016 - Dry	2020 - Dry	Complete - needs Town follow up	1	1	High	Low
FK	Unnamed Tributary to Beaver Brook	OF-426	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
FO	Unnamed Tributary to Beaver Brook	OF-431	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
FO	Unnamed Tributary to Beaver Brook	OF-432	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete	0	0	Low	Low
FV	Unnamed Tributary To Beaver Brook	OF-444	0	0	0	2	0	0	0	0	0		2020 - Dry	Complete - needs Town follow up	2	2	Low	Low
FX	Unnamed Tributary to Steep Hill Brook	OF-450	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
FY	Unnamed Tributary to Town Pond	OF-453	0	0	0	0	0	0	0	0	0		2021 - Sampled	Complete	0	0	Low	Low
FZ	Beaver Meadow Brook	OF-455	0	0	0	0	0	0	0	0	1		2021 - Dry	Complete	1	1	High	Low
GA	Beaver Meadow Brook	OF-456	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
GC	Unnamed Tributary to Beaver Brook	OF-458	0	0	0	0	0	0	0	0	0		2021 - Dry	Incomplete	0	0	Low	Low
GD	Unnamed Tributary to Beaver Brook	OF-459	0	0	0	0	0	0	0	0	0		2021 - Dry	Incomplete	0	0	Low	Low
GH	Unnamed Tributary to Dorchester Brook	OF-463	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
GG	Unnamed Tributary to Dorchester Brook	OF-464	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
GH	Unnamed Tributary to Steep Hill Brook	OF-465	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
GJ	Briggs Pond	OF-468	0	0	0	2	0	0	0	0	0		2021 - Dry	Complete	2	2	Low	Low
GK	Unnamed Tributary to Steep Hill Brook	OF-469	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
GP	Town Pond	OF-478	0	0	0	0	0	0	0	0	0		2020 - Dry	Initial Investigation Complete	0	0	Low	Low
HI	Unnamed Tributary to Beaver Brook	OF-516	1	0	0	0	0	0	0	0	0		2020 - Dry	Initial Investigation Complete	1	1	Low	Low
HQ	Dorchester Brook	OF-54	0	0	0	0	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete	0	0	Low	Low
GB	Ames Long Pond	OF-547	0	0	0	2	0	1	0	0	1		2019 - Dry	Complete	4	4	High	High
HU	Dorchester Brook	OF-55	0	0	0	0	0	0	0	0	0		2020 - Dry	Initial Investigation Complete	0	0	Low	Low
HW	Ames Long Pond	OF-553	0	0	0	2	0	1	0	0	1		2019 - Dry	Complete	4	4	High	High
HW	Ames Long Pond	OF-553O-1 (NEW)	0	0	0	2	0	1	0	0	1			Incomplete	4	4	High	High
HW	Ames Long Pond	OF-553S-1 (NEW)	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
HW	Ames Long Pond	OF-553S-2 (NEW)	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
HW	Ames Long Pond	OF-553S-3 (NEW)	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
HW	Ames Long Pond	OF-553S-4 (NEW)	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
HW	Ames Long Pond	OF-553S-5 (NEW)	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
HX	Ames Long Pond	OF-553S-6 (NEW)	0	0	0	2	0	1	0	0	1		2019 - Dry	Complete	4	4	High	High
HX	Ames Long Pond	OF-554	0	0	0	2	0	1	0	0	1			Complete	4	4	High	High
IB	Dorchester Brook	OF-56	0	0	0	0	0	0	0	0	0	2016 - Flow	2019 - Dry	Complete	0	0	Low	Low
IB	Town Pond	OF-560(NEW)	0	0	0	0	0	0	0	0	0			Complete	0	0	Low	Low
IB	Town Pond	OF-560S(NEW)	0	0	0	0	0	0	0	0	0			Complete	0	0	Low	Low
IE	Unnamed Tributary to Dorchester Brook	OF-57	0	0	0	0	0	0	0	0	0		2019 - Dry	Complete	0	0	Low	Low
IM	Unnamed Tributary to Steep Hill Brook	OF-580	0	0	0	0	2	1	0	0	1		2021 - Sampled	Complete	4	4	High	High
IR	Unnamed Tributary to Beaver Brook	OF-587	0	0	0	0	0	0	0	0	0		2021 - Sampled	Complete	0	0	Low	Low
IS	Unnamed Wetlands to Beaver Brook	OF-588	0	0	0	2	0	0	0	0	0	2015 - Dry	2015 - Dry	Complete	2	2	Low	Low
IU	Unnamed Tributary near Woods Pond	OF-59	0	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	0	0	Low	Low
IY	Unnamed Tributary near Woods Pond	OF-60	0	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	0	0	Low	Low
JD	Unnamed Tributary to Beaver Brook	OF-610	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low
JF	Unnamed Tributary (MA73-32)	OF-612	0	0	0	0	0	0	0	0	1		2019 - Dry	Complete	1	1	High	Low
JH	Beaver Brook	OF-616	0	0	0	2	0	0	0	0	0		2021 - Dry	Initial Investigation Complete	2	2	Low	Low
DS	Unnamed Wetlands to Three Swamp Brook	OF-634	1	0	0	0	0	0	0	0	0		2020 - Dry	Planned	1	1	Low	Low
JM	Unnamed Wetlands to Beaver Brook	OF-636	0	0	0	0	0	0	0	0	0		2020 - Dry	Complete - needs Town follow up	0	0	Low	Low
JF	Unnamed Tributary to Steep Hill Brook	OF-64	0	0	0	0	0	0	0	0	1	2016 - Dry	2016 - Dry	Complete	1	1	High	Low
JN	Unnamed Tributary to Town Pond	OF-641	0	0	0	0	0	0	0	0	0	2015 - Dry	2021 - Dry	Complete	0	0	Low	Low
JP	Coweeset Brook	OF-643	0	0	0	0	0	0	0	0	0			Complete	0	0	Low	Low
JS	Unnamed Tributary (MA73-32)	OF-65	0	0	0	0	0	0	0	0	1	2016 - Dry	2019 - Dry	Complete and additional Town assistance needed.	1	1	High	Low
JU	Unnamed Tributary to Town Pond	OF-653	0	0	0	0	0	0	0	0	0	2015 - Dry	2015 - Dry	Complete	0	0	Low	Low
JZ	Unnamed Tributary to Town Pond	OF-664	0	0	0	0	0	0	0	0	0		2021 - Dry	Complete	0	0	Low	Low

Outfalls dischraging to Category 4a, 4c, or 5 waterbodies are ranked High
Outfalls with sampling indicating likely sewer input are ranked High

ENVIRONMENTAL PARTNERS
— An Apex Company —

Stormwater Outfall Ranking Table
Stoughton, MA
September 2023

Catchment ID	Receiving Water	Outfall ID	Density of Generating Sites	Age of Development/ Infrastructure	Historic Combined Sewers or Converted Septic?	Aging Septic?	Culverted Streams?	Discharging to Area of Concern to Public Health? (Catchment)	Previous Screening Results Indicate Likely Sewer Input?	Frequency of Past Discharge Complaints	Receiving Water Quality	IDDE Resits			Outfall Score	Catchment Score	Outfall Ranking *	Catchment Ranking *
Information Source			Land Use/GIS Maps, Aerial Photography, Google Earth	Land Use Information, Town Input	Town Input, GIS Maps	Parcel Age	GIS and Storm System Maps	GIS Maps, Town Input	Outfall inspections and sample results	Town Input	Impaired Waters List	2003 MS4 Permit Sampling Results	2016 MS4 Permit Sampling Results	Catchment Investigation Status				
Scoring Criteria			High = 2 Medium = 1 Low = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Older = 2 Medium = 1 Newer = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Yes = 2 No Data = 1 No = 0	Frequent = 2 Occasional = 1 None = 0	Category 4a = 2 Category 5 = 1 Others = 0							
OU	Unnamed Tributary To Beaver Brook	OF-669	0	0	0	0	0	0	0	0	0		2021 - Dry	Incomplete	0	0	Low	Low
KC	Unnamed Tributary to Steep Hill Brook	OF-671	0	0	0	0	0	1	0	0	1		2019 - Dry	Complete	2	2	High	Low
KI	Plain Street Pond	OF-69	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	2	2	Low	Low
LD	Unnamed Wetlands near Lovett Brook	OF-710	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	2	2	Low	Low
LO	Unnamed Pond near Woods Pond	OF-723	0	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	0	0	Low	Low
OJ	Unnamed Tributary to Unnamed Tributary (MA73-32)	OF-728	1	0	0	0	2	0	0	0	1		2022 - Sampled	Planned	4	4	High	High
MA	Unnamed Tributary to Bolivar Pond	OF-735	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	2	2	Low	Low
ME	Unnamed Pond	OF-739	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Initial Investigation Complete	2	2	Low	Low
JF	Unnamed Tributary to Steep Hill Brook	OF-742	0	0	0	0	0	0	0	0	1	2016 - Dry	2016 - Dry	Complete	1	1	High	Low
MG	Unnamed Wetlands near Lovett Brook	OF-744	0	0	0	2	0	0	0	0	0	2016 - Dry	2019 - Dry	Complete	2	2	Low	Low
MH	Unnamed Tributary to Beaver Brook	OF-745	0	0	0	0	0	0	0	0	0	2016 - Flow	2019 - Dry	Complete - needs Town follow up	0	0	Low	Low
MJ	Steep Hill Brook	OF-747	0	0	0	0	0	0	0	0	1	2016 - Dry	2016 - Dry	Complete	1	1	High	Low
MK	Steep Hill Brook	OF-748	0	0	0	0	0	0	0	0	1	2016 - Flow	2019 - Dry	Initial Investigation Complete	1	1	High	Low
IA	Coweeset Brook	OF-751	0	0	0	0	0	0	0	0	0			Complete	0	0	Low	Low
MO	Unnamed Tributary to Beaver Brook	OF-753	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Planned	2	2	Low	Low
MP	Unnamed Tributary To Beaver Brook	OF-754	1	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	1	1	Low	Low
MQ	Unnamed Tributary to Beaver Brook	OF-755	0	0	0	0	0	0	0	0	0	2016 - Flow	2019 - Dry	Planned	0	0	Low	Low
MR	Unnamed Tributary to Beaver Brook	OF-756	0	0	0	0	0	0	0	0	0	2016 - Flow	2021 - Dry	Planned	0	0	Low	Low
JF	Unnamed Tributary to Steep Hill Brook	OF-757	0	0	0	0	0	0	0	0	1	2016 - Dry	2016 - Dry	Planned	1	1	High	Low
MT	Beaver Meadow Brook	OF-759	0	0	0	0	0	0	0	0	1	2016 - Dry	2020 - Dry	Complete	1	1	High	Low
MX	Unnamed Tributary to Beaver Brook	OF-762	0	0	0	0	0	0	0	0	0	2016 - Dry	2016 - Dry	Planned	0	0	Low	Low
MY	Dry Pond	OF-764	0	0	0	2	0	0	0	0	0	2016 - Dry	2016 - Dry	Complete	2	2	Low	Low
ND	Town Pond	OF-769	0	0	0	2	0	0	0	0	0		2021 - Dry	Initial Investigation Complete	2	2	Low	Low
NE	Ames Long Pond	OF-77	0	0	0	0	0	0	0	0	1	2016 - Dry	2021 - Sampled	Planned	1	1	High	Low
NN	Beaver Brook	OF-788	0	0	0	0	0	0	0	0	0		2021 - Sampled	Complete	0	0	Low	Low
NS	Unnamed Wetlands	OF-792	1	0	0	0	0	0	0	0	0		2021 - Sampled	Complete	1	1	Low	Low
OC	Unnamed Tributary to Steep Hill Brook	OF-793	1	0	0	0	2	0	0	0	1		2022 - Sampled	Planned	4	4	High	High
HI	Unnamed Tributary to Beaver Brook	OF-801	1	0	0	0	0	0	0	0	0		2020 - Dry	Complete	1	1	Low	Low
OD	Unnamed Tributary	OF-803	0	0	0	2	0	0	0	0	0		2022 - Dry	Complete	2	2	Low	Low
OF	Unnamed Tributary	OF-804	0	0	0	2	0	0	0	0	0		2022 - Dry	Complete	2	2	Low	Low
OG	Unnamed Tributary	OF-805	0	0	0	0	0	0	0	0	0		2022 - Dry	Complete	0	0	Low	Low
OH	Unnamed Tributary to Beaver Brook	OF-806	0	0	0	0	0	0	0	0	0		2022 - Sampled	Planned	0	0	Low	Low
OI	Unnamed Tributary near Dorchester Brook	OF-807	0	0	0	0	0	0	0	0	0		2022 - Dry	Complete	0	0	Low	Low
OK	Beaver Brook	OF-809	1	0	0	0	0	0	0	0	0		2022 - Dry	Complete	1	1	Low	Low
OL	Unnamed Tributary to Beaver Brook	OF-810	0	0	0	0	0	0	0	0	0		2022 - Dry	Complete	0	0	Low	Low
HW	Beaver Pond	OF-812 (NEW)	1	0	0	0	0	0	0	0	0			Complete	1	1	Low	Low
OU	Unnamed Tributary To Beaver Brook	OF-813 (NEW)	0	0	0	0	0	0	0	0	0			Complete	0	0	Low	Low
OU	Unnamed Tributary To Beaver Brook	OF-814 (NEW)	0	0	0	0	0	0	2	0	0			Planned	2	2	Priority	Low
OE	Unnamed Wetlands near Lovett Brook	OF-98	1	0	0	2	0	0	0	0	0	2016 - Dry	2020 - Dry	Complete	3	3	Low	Low

Town confirmed no previous combined system on 8/23/2022

Outfalls dischraging to Category 4a, 4c, or 5 waterbodies are ranked High
Outfalls with sampling indicating likely sewer input are ranked High

ENVIRONMENTAL PARTNERS
— An Apex Company —

APPENDIX D

Field Forms and Hyperlinks to Laboratories and Field Services Companies

Date: _____

Weather Observations: _____

Staff Onsite: _____

Photos: _____

Stoughton Storm Drain Mapping Form

Structure #:_____

Map #: _____

Street Name: _____

Nearest Structure: _____
(address, bldg, utility pole, etc)

Type of Structure: _____
(outfall, culvert, inlet, etc)

Headwall?: _____
(Y/N; concrete, stone, rip rap, none)

Material: _____
(concrete, concrete FES, corrugated metal, plastic, pvc, clay, cast iron, etc)

Size & Shape of Structure: _____
_____
(diameter, width/height)

Invert (top of headwall to bottom inside of pipe): _____
_____

Pipe Condition/headwall condition: _____
_____

Connectivity: _____
(from MH, CB, culvert, other)

Date: _____

Structure Number: _____

Is Crown (top inside of pipe) Above or Below Surface Water?: _____

Dry Weather Flow Conditions: _____
(weather, ground condition, flowing?)

Description of Visual Characteristics or Odors: _____

_____
(aesthetics, deposits/stains, erosion, vegetation)

<u>Field Screening Data:</u>

pH: _____
Temperature: _____
Sp. Conduct.: _____
Turbidity: _____

Flag as Future Sample Location? (Y/N): _____

Sample collected for lab analysis? ** (Y/N): _____

Lab Sample ID: _____
Analyses: _____
Sampling Date/Time: _____
**** (ensure SOP for stormwater grab sampling has been followed, see Appendix F of IDDE Plan)**

<u>Additional comments/Sketch:</u>

Appendix D – Links to Relevant Laboratories and Field Services Companies

Local Massachusetts State Certified Laboratories:

- ESS Laboratory; Cranston, RI http://www.esslaboratory.com/
- Alpha Analytical Labs; Westborough, MA https://alphalab.com/
- G&L Laboratories; Quincy, MA http://www.gllab.com/
- MassDEP Searchable Laboratory Certification Listing https://eeaonline.eea.state.ma.us/DEP/Labcert/Labcert.aspx

Local Field Equipment Suppliers

- U.S. Environmental; Waltham, MA https://usenvironmental.com/
- Pine Environmental; Woburn, MA http://www.pine-environmental.com/locations/?list
- Hach Company Analytical Instruments https://www.hach.com/

CCTV/Video Inspection Companies

- National Water Main Cleaning Co.; Canton, MA https://nwmcc.com/
- BMC Corp.; Billerica, MA https://pipejetter.com/cctv-inspection.html
- Inland Waters Inc.; Johnston, RI http://www.inlandwatersinc.com/

APPENDIX E

Outfall Sampling and Catchment Investigation Results

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: August 23, 2022

To Mark J. Tisdelle, P.E. – Town Engineer, Town of Stoughton

From Scott Turner, P.E. – Director of Planning, Environmental Partners

CC Laurence Langlois – GIS Manager/Stormwater Coordinator, Town of Stoughton
Paul Giffune – Acting Public Works Director, Town of Stoughton

Subject Year 4 Additional Dry Weather Illicit Discharge Detection & Elimination (IDDE) Outfall Screening Results - MS4 General Permit Assistance for the DPW Engineering Division

This memorandum documents dry weather screenings completed under the Agreement for Professional Engineering Services – Municipal Separate Storm Sewer Systems (MS4) General Permit Assistance for the Department of Public Works (DPW) Engineering Division of the Town of Stoughton.

Under this contract, Environmental Partners Group, LLC (EP) updated GIS mapping data and the MS4 outfall inventory. **The current MS4 outfall inventory includes 147 outfalls**. As part of this effort, nine (9) new outfalls were inventoried and screened in March, April, and July 2022. Four (4) outfalls were found to be flowing during dry weather and sampled. In total, 47 outfalls were removed from the inventory and 11 outfalls were added.

Outfall Inventory Updates

Prior to these updates, the Town's MS4 outfall inventory included 183 outfalls. That inventory had been improved last year in 2021 after field staff visited all outfall and recorded notes on ownership. This year, Environmental Partners continued that work and conducted an in-depth review of roadway and subdivision ownership to refine the outfall inventory further. A number of roads (listed below) are privately maintained and previously had an outfall that now is confirmed to be private. This list was verified by the Town's asset management "Roadway Acceptance Review" list, last updated February 2022, and during discussions with the Town's GIS Manager. The private roads include:

- Erin Road
- Ethyl Way
- Greenbrook Drive
- Ikea Way
- Jennifer Lane
- Jessica Drive
- Patricia Drive
- Onset Lane
- Reebok Drive
- Sunrise Terrace

Additionally, Environmental Partners confirmed five (5) outfalls to be owned and maintained by the Massachusetts Department of Transportation (MassDOT). MassDOT published stormwater GIS mapping for public use in March 2021, data that was unavailable or in draft form when the original outfall inventory was developed. Environmental Partners cross-referenced this inventory with the Town's outfall inventory as well as road ownership GIS to determine five (5) outfalls—located on Park Street and Route 139—should be removed from the municipal IDDE Program.

Other separate stormwater mapping improvements resulted in adjustments to the outfall inventory as well. Several new BMPs were inventoried this year, and all structures discharging into these BMPs now are considered outlets. The overflow structures that discharge stormwater from the BMPs to waterbodies were added as new MS4 outfalls. Additionally, newly mapped drainage ditches added two previously flagged upland outfalls (OF-793, OF-809) to the MS4 outfall inventory. These two outfalls drain a significant portion of the center of Town, including over 9.5 miles of drain pipe and over 10 municipal facilities.

Lastly, updates to the inventory were also made based on field observations during catchment investigation work. For example, field connectivity updates indicated that two structures were actually culvert outlets, which was verified with as-built site plans and Town input (OF-143 and OF-365).

Outfall Sampling Results

The four (4) outfalls found to be flowing during dry weather were analyzed for ammonia, chlorine, fecal coliform, E. coli, total phosphorous, and surfactants at a state certified laboratory, Alpha Analytical Inc. in Westborough, MA. Outfalls were field-screened for temperature, specific conductance, salinity, pH, and dissolved oxygen. A summary of the field and analytical results is presented in Table 2: Stormwater Field Screening and Analytical Results.

Sampling results from two (2) outfalls showed parameter concentrations above MS4 thresholds. At outfall OF-545 on Wheeler Circle, ammonia was detected at 1.92 mg/L, which exceeds the contaminant criteria of 0.5 mg/L. Specific conductance was detected at 2,104 µS/cm, which exceeds the contaminant criteria of 2,000 µS/cm. Additionally, at outfall OF-793 on Myrtle Street, fecal coliform and E. coli were detected at 1,553.12 col/100 mL and 1,986.29 MPN/100 mL, respectively. Fecal coliform does not have an applicable threshold, but E. coli has a threshold of 236 MPN/100 mL, which is lower than the sampling results at OF-793. These two outfalls should be prioritized for future catchment investigations.

Attachments

Table 1: Changes to Town of Stoughton MS4 Outfall Inventory

Table 2: Stormwater Field Screening and Analytical Results

Laboratory Analytical Report

MS4 Certification Page

Table 1: Changes to the Town of Stoughton MS4 Outfall Inventory

Outfall ID	Reason for Change	Add or Remove	Screening Status, if applicable	Screening Date, if applicable
OF-100	Outlet to BMP (not waterway)	Remove		
OF-136	Private	Remove		
OF-15	Private	Remove		
OF-236	Outlet to BMP (not waterway)	Remove		
OF-250	Outlet to BMP (not waterway)	Remove		
OF-303	Private	Remove		
OF-305	Private	Remove		
OF-327	Private	Remove		
OF-346	Private	Remove		
OF-365	Culvert outlet	Remove		
OF-395	Private	Remove		
OF-419	Outfall from BMP to waterway	Add	Dry	3/9/2022
OF-429	Outlet to BMP (not waterway)	Remove		
OF-46	Outlet to BMP (not waterway)	Remove		
OF-486	Private	Remove		
OF-494	Private	Remove		
OF-5	Private	Remove		
OF-50	Private	Remove		
OF-51	Private	Remove		
OF-52	Private	Remove		
OF-521	Private	Remove		
OF-522	Private	Remove		
OF-526	Private	Remove		
OF-535	Private	Remove		
OF-545	Not private	Add	Flowing, Sampled	4/13/2022
OF-546	Private	Remove		
OF-567	Private	Remove		
OF-578	Private	Remove		
OF-585	Private	Remove		
OF-586	Private	Remove		
OF-6	Private	Remove		
OF-617	Private	Remove		
OF-629	Private	Remove		
OF-697	Private	Remove		
OF-699	Private	Remove		
OF-7	Private	Remove		
OF-700	Private	Remove		

Table 1: Changes to the Town of Stoughton MS4 Outfall Inventory

Outfall ID	Reason for Change	Add or Remove	Screening Status, if applicable	Screening Date, if applicable
OF-703	Private	Remove		
OF-704	Private	Remove		
OF-728	Previously was greater than 100 feet from Waters of the U.S., but location was improved and now is within 100 feet of water	Add	Flowing, Sampled	4/13/2022
OF-732	Private	Remove		
OF-733	Private	Remove		
OF-765	Private	Remove		
OF-790	Private	Remove		
OF-791	Private	Remove		
OF-793	280 feet from Waters of the U.S., but newly mapped drainage ditch conveys water from outfall to waterbody	Add	Flowing, Sampled	7/1/2022
OF-800	Private	Remove		
OF-803	Inventoried, new ID, outfall from BMP	Add	Dry	3/14/2022
OF-804	Inventoried, new ID, outfall from BMP	Add	Dry	3/14/2022
OF-805	Inventoried, new ID, outfall from BMP	Add	Dry	3/14/2022
OF-806	Inventoried, new ID, outfall from BMP	Add	Flowing, Sampled	4/13/2022
OF-807	Inventoried, new ID, outfall from BMP	Add	Dry	3/9/2022
OF-809	Located greater than 100 feet from Waters of the U.S., but newly mapped drainage ditch conveys water from outfall to waterbody	Add	Dry	3/9/2022
OF-810	Identified during catchment investigations	Add	Dry	3/22/2022
OF-86	Outlet to BMP (not waterway)	Remove		
OF-87	Private	Remove		
OF-99	Outlet to BMP (not waterway)	Remove		
OF-143	Structure determined to be culvert outfall and receive no Town drainage	Remove		

Table 2: Stormwater Field Screening and Analytical Results

Outfall Identification		OF-545		OF-728		OF-806		OF-793
Discharge Waterbody		Unnamed Tributary to Steep Hill Brook		Unnamed Tributary to Steep Hill Brook		Unnamed Tributary to Beaver Brook		Unnamed Tributary to Steep Hill Brook
Address		153 Wheeler Circle		Memorial/Simpson		57 Tamarack Drive		70 Myrtle Street
Date Sampled		4/13/2022	6/29/2022	4/13/2022	6/29/2022	4/13/2022	6/29/2022	7/1/2022
Sample Time		9:55 AM	10:05 AM	10:35 AM	10:20 AM	11:35 AM	1:05 PM	11:15 AM
Field Test Results	Threshold							
Temperature (˚C)		-	18.2	-	18.6	-	24.5	18.5
Specific Conductance (µS/cm)	2000	-	**2104**	-	794	-	649	1273
Salinity (ppt)		-	1.08	-	0.39	-	0.08	0.64
DO (mg/L)		-	5.09	-	7.8	-	4.76	6.9
pH (unitless)	6.5-8.0	-	7.01	-	7.44	-	7.31	7.42
Oxygen Reduction Potential (mV)		-	-100	-	-1.9	-	-140	-84
Analytical Results								
Ammonia as Nitrogen (mg/L)	0.5	**1.92**	-	0.165	-	ND	-	0.12
Total Residual Chlorine (mg/L)		ND	-	ND	-	ND	-	ND
Phosphorus, Total (mg/L)		0.16	-	0.017	-	0.046	-	0.02
Surfactants, MBAS (mg/L)	0.25	ND	-	ND	-	ND	-	ND
Fecal Coliform, MF (col/100mL)		70	-	15	-	ND	-	**1553.12**
E. coli (MPN/100 mL)	236	36.41	-	16.94	-	1	-	**1986.29**

Notes
- : Not Tested
ND: Non-detect
Bold, red values exceed contaminant criteria.

ANALYTICAL REPORT

Lab Number:	L2235345
Client:	Environmental Partners 1900 Crown Colony Drive Suite 402 4th Floor Quincy, MA 02169
ATTN:	Annie Tucker
Phone:	(617) 657-0973
Project Name:	Not Specified
Project Number:	295.2010
Report Date:	07/25/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: Not Specified
Project Number: 295.2010

Lab Number: L2235345
Report Date: 07/25/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2235345-01	OF-793	WATER	Not Specified	07/01/22 11:15	07/01/22

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

Case Narrative (continued)

Chlorine, Total Residual

WG1658256: A Matrix Spike could not be performed due to insufficient sample volume available for analysis.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Tiffani Morrissey - Tiffani Morrissey

Title: Technical Director/Representative Date: 07/25/22

INORGANICS
&
MISCELLANEOUS

Project Name: Not Specified
Project Number: 295.2010

Lab Number: L2235345
Report Date: 07/25/22

SAMPLE RESULTS

Lab ID: L2235345-01
Client ID: OF-793
Sample Location: Not Specified

Date Collected: 07/01/22 11:15
Date Received: 07/01/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Fecal (MPN)	1553.12		MPN/100ml	1	NA	1	-	07/01/22 14:32	121,9223B	TL
E. Coli (MPN)	1986.29		MPN/100ml	1	NA	1	-	07/01/22 15:06	121,9223B	JW
General Chemistry - Westborough Lab										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	07/02/22 08:05	121,4500CL-D	MR
Nitrogen, Ammonia	0.120		mg/l	0.075	--	1	07/19/22 23:15	07/20/22 17:53	121,4500NH3-BH	AT
Nitrogen, Nitrate/Nitrite	2.2		mg/l	0.10	--	1	-	07/06/22 05:32	44,353.2	MR
Total Nitrogen	2.7		mg/l	0.30	--	1	-	07/25/22 18:08	107,-	JO
Nitrogen, Total Kjeldahl	0.536		mg/l	0.300	--	1	07/25/22 08:30	07/25/22 16:23	121,4500NH3-H	AT
Phosphorus, Total	0.020		mg/l	0.010	--	1	07/14/22 12:00	07/15/22 09:09	121,4500P-E	SD
Surfactants, MBAS	ND		mg/l	0.050	--	1	07/02/22 07:30	07/02/22 09:18	121,5540C	KA

Project Name:

Project Number: 295.2010

Lab Number: L2235345

Report Date: 07/25/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1658117-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	07/01/22 15:06	121,9223B	JW
Microbiological Analysis - Westborough Lab for sample(s): 01 Batch: WG1658118-1										
Coliform, Fecal (MPN)	<1		MPN/100ml	1	NA	1	-	07/01/22 14:32	121,9223B	TL
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1658254-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	07/02/22 07:30	07/02/22 09:14	121,5540C	KA
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1658256-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	07/02/22 08:05	121,4500CL-D	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1658678-1										
Nitrogen, Nitrate/Nitrite	ND		mg/l	0.10	--	1	-	07/06/22 03:23	44,353.2	MR
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1662901-1										
Phosphorus, Total	ND		mg/l	0.010	--	1	07/14/22 12:00	07/15/22 08:46	121,4500P-E	SD
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1664910-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	07/19/22 23:15	07/20/22 17:37	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 01 Batch: WG1666801-1										
Nitrogen, Total Kjeldahl	ND		mg/l	0.300	--	1	07/25/22 08:30	07/25/22 16:18	121,4500NH3-H	AT

Lab Control Sample Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: 295.2010

Lab Number: L2235345

Report Date: 07/25/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1658254-2								
Surfactants, MBAS	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1658256-2								
Chlorine, Total Residual	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1658678-2								
Nitrogen, Nitrate/Nitrite	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1662901-2								
Phosphorus, Total	96		-		80-120	-		
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1664910-2								
Nitrogen, Ammonia	112		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 Batch: WG1666801-2								
Nitrogen, Total Kjeldahl	98		-		78-122	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: Not Specified
Project Number: 295.2010

Lab Number: L2235345
Report Date: 07/25/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1658254-4 QC Sample: L2235307-02 Client ID: MS Sample												
Surfactants, MBAS	ND	0.4	0.450	112		-	-		52-157	-		32
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1658678-4 QC Sample: L2235345-01 Client ID: OF-793												
Nitrogen, Nitrate/Nitrite	2.2	4	6.6	110		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1662901-3 QC Sample: L2233668-01 Client ID: MS Sample												
Phosphorus, Total	0.045	0.5	0.546	100		-	-		75-125	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1664910-4 QC Sample: L2234291-01 Client ID: MS Sample												
Nitrogen, Ammonia	ND	4	3.59	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1666801-4 QC Sample: L2235295-02 Client ID: MS Sample												
Nitrogen, Total Kjeldahl	ND	16	15.0	94		-	-		77-111	-		24

Lab Duplicate Analysis

Batch Quality Control

Project Name: Not Specified

Project Number: 295.2010

Lab Number: L2235345

Report Date: 07/25/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1658254-3 QC Sample: L2235307-02 Client ID: DUP Sample						
Surfactants, MBAS	ND	ND	mg/l	NC		32
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1658256-3 QC Sample: L2235345-01 Client ID: OF-793						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1658678-3 QC Sample: L2235345-01 Client ID: OF-793						
Nitrogen, Nitrate/Nitrite	2.2	2.3	mg/l	4		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1662901-4 QC Sample: L2233668-01 Client ID: DUP Sample						
Phosphorus, Total	0.045	0.046	mg/l	2		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1664910-3 QC Sample: L2234291-01 Client ID: DUP Sample						
Nitrogen, Ammonia	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01 QC Batch ID: WG1666801-3 QC Sample: L2235295-02 Client ID: DUP Sample						
Nitrogen, Total Kjeldahl	ND	ND	mg/l	NC		24

Project Name: Not Specified
Project Number: 295.2010

Lab Number: L2235345
Report Date: 07/25/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2235345-01A	Plastic 120ml unpreserved	A	7	7	5.1	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2235345-01B	Bacteria Cup Na2S2O3 preserved	A	NA		5.1	Y	Absent		F-COLI-QT(.33)
L2235345-01C	Bacteria Cup Na2S2O3 preserved	A	NA		5.1	Y	Absent		F-COLI-QT(.33)
L2235345-01D	Bacteria Cup Na2S2O3 preserved	A	NA		5.1	Y	Absent		E-COLI-QT(.33)
L2235345-01E	Bacteria Cup Na2S2O3 preserved	A	NA		5.1	Y	Absent		E-COLI-QT(.33)
L2235345-01F	Plastic 250ml H2SO4 preserved	A	<2	<2	5.1	Y	Absent		TKN-4500(28),NO3/NO2-353(28),TPHOS-4500(28),TNITROGEN(28),NH3-4500(28)
L2235345-01G	Plastic 500ml H2SO4 preserved	A	<2	<2	5.1	Y	Absent		TKN-4500(28),NO3/NO2-353(28),TPHOS-4500(28),TNITROGEN(28),NH3-4500(28)
L2235345-01H	Plastic 950ml unpreserved	A	7	7	5.1	Y	Absent		TRC-4500(1),MBAS-5540(2)

*Values in parentheses indicate holding time in days

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Chlordane: The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Gasoline Range Organics (GRO): Gasoline Range Organics (GRO) results include all chromatographic peaks eluting from Methyl tert butyl ether through Naphthalene, with the exception of GRO analysis in support of State of Ohio programs, which includes all chromatographic peaks eluting from Hexane through Dodecane.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

Data Qualifiers

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	Not Specified	**Lab Number:**	L2235345
Project Number:	295.2010	**Report Date:**	07/25/22

REFERENCES

44 Methods for the Determination of Inorganic Substances in Environmental Samples, EPA/600/R-93/100, August 1993.

107 Alpha Analytical - In-house calculation method.

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 7/1/22

ALPHA Job #: L2235345

ALPHA
Eight Walkup Drive Westborough, MA 01581
TEL: 508-898-9220 FAX: 508-898-9193

Client Information

Client: Environmental Partners
Address: 1900 Crown Colony Dr 402
Quincy MA
Phone: 207939 3883
Fax:
Email: aet@envpartners.com

☐ These samples have been previously analyzed by Alpha

Project Information

Project Name:
Project Location:
Project #:
Project Manager:
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☐ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☑ Same as Client info PO #: R282-2109.02

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

MCP PRESUMPTIVE CERTAINTY - THESE QUESTIONS MUST BE ANSWERED

☐ Yes ☑ No Are MCP Analytical Methods Required?
☐ Yes ☑ No Are Drinking Water Samples Submitted?
☐ Yes ☑ No Have you met minimum field QC requirements?

Other Project Specific Requirements/Comments/Detection Limits:

NPDES / MS4

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☑ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	ANALYSIS: e coli	Fecal coliform	Surfactants	TRC	Total Phos.	Ammonia	Total Nitrogen						Sample Specific Comments	TOTAL # BOTTLES
35345-01	OF-793	7/1/22	11:15	Storm water	AT	X	X	X	X	X	X	X							

QUESTIONS ABOVE MUST BE ANSWERED FOR PRESUMPTIVE CERTAINTY

IS YOUR PROJECT MCP ? NO

Container Type																	
Preservative																	

Relinquished By:	Date/Time	Received By:	Date/Time
Annie Tuck	7/1/22 11:44	MoM AAL	7/1/22 1144
MoM	7/1/22 1238	[signature]	7/1/22 1238

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Payment Terms. See reverse side.

ANALYTICAL REPORT

Lab Number:	L2219185
Client:	Environmental Partners 1900 Crown Colony Drive Suite 402 4th Floor Quincy, MA 02169
ATTN:	Annie Tucker
Phone:	(617) 657-0973
Project Name:	STOUGHTON FY22 OUTFALLS
Project Number:	295.2010
Report Date:	04/27/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA086), NH NELAP (2064), CT (PH-0574), IL (200077), ME (MA00086), MD (348), NJ (MA935), NY (11148), NC (25700/666), PA (68-03671), RI (LAO00065), TX (T104704476), VT (VT-0935), VA (460195), USDA (Permit #P330-17-00196).

Eight Walkup Drive, Westborough, MA 01581-1019
508-898-9220 (Fax) 508-898-9193 800-624-9220 - www.alphalab.com

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010

Lab Number: L2219185
Report Date: 04/27/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2219185-01	OF-545	WATER	STOUGHTON, MA	04/13/22 09:55	04/13/22
L2219185-02	OF-728	WATER	STOUGHTON, MA	04/13/22 10:35	04/13/22
L2219185-03	OF-806	WATER	STOUGHTON, MA	04/13/22 11:35	04/13/22

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

Case Narrative (continued)

Surfactants, MBAS

L2219185-01: The sample has an elevated detection limit due to the dilution required by the sample matrix.

Coliform, Fecal (MF)

L2219185-03: The sample has an elevated detection limit due to the dilution required by the method.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Cristin Walker

Title: Technical Director/Representative Date: 04/27/22

INORGANICS
&
MISCELLANEOUS

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010
Lab Number: L2219185
Report Date: 04/27/22

SAMPLE RESULTS

Lab ID: L2219185-01
Client ID: OF-545
Sample Location: STOUGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 04/13/22 09:55
Date Received: 04/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Fecal (MF)	70		col/100ml	2.0	NA	2	-	04/13/22 16:59	121,9222D	JW
E. Coli (MPN)	36.41		MPN/100ml	1	NA	1	-	04/13/22 15:30	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/13/22 23:44	121,4500CL-D	AS
Nitrogen, Ammonia	1.92		mg/l	0.075	--	1	04/15/22 13:00	04/15/22 21:51	121,4500NH3-BH	AT
Phosphorus, Total	0.160		mg/l	0.010	--	1	04/20/22 10:30	04/20/22 15:21	121,4500P-E	SD
Surfactants, MBAS	ND		mg/l	0.500	--	10	04/14/22 01:30	04/14/22 04:04	121,5540C	KA

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010
Lab Number: L2219185
Report Date: 04/27/22

SAMPLE RESULTS

Lab ID: L2219185-02
Client ID: OF-728
Sample Location: STOUGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 04/13/22 10:35
Date Received: 04/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Fecal (MF)	15		col/100ml	2.0	NA	2	-	04/13/22 16:59	121,9222D	JW
E. Coli (MPN)	16.94		MPN/100ml	1	NA	1	-	04/13/22 15:30	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/13/22 23:44	121,4500CL-D	AS
Nitrogen, Ammonia	0.165		mg/l	0.075	--	1	04/15/22 13:00	04/15/22 21:52	121,4500NH3-BH	AT
Phosphorus, Total	0.017		mg/l	0.010	--	1	04/20/22 10:30	04/20/22 15:22	121,4500P-E	SD
Surfactants, MBAS	ND		mg/l	0.050	--	1	04/14/22 01:30	04/14/22 04:05	121,5540C	KA

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010
Lab Number: L2219185
Report Date: 04/27/22

SAMPLE RESULTS

Lab ID: L2219185-03
Client ID: OF-806
Sample Location: STOUGHTON, MA
Sample Depth:
Matrix: Water

Date Collected: 04/13/22 11:35
Date Received: 04/13/22
Field Prep: Not Specified

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab										
Coliform, Fecal (MF)	ND		col/100ml	2.0	NA	2	-	04/13/22 16:59	121,9222D	JW
E. Coli (MPN)	1		MPN/100ml	1	NA	1	-	04/13/22 15:30	121,9223B	TL
General Chemistry - Westborough Lab										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/13/22 23:44	121,4500CL-D	AS
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/16/22 03:14	04/18/22 13:15	121,4500NH3-BH	KP
Phosphorus, Total	0.046		mg/l	0.010	--	1	04/20/22 10:30	04/20/22 15:23	121,4500P-E	SD
Surfactants, MBAS	ND		mg/l	0.050	--	1	04/14/22 01:30	04/14/22 04:05	121,5540C	KA

Project Name: STOUGHTON FY22 OUTFALLS **Lab Number:** L2219185

Project Number: 295.2010 **Report Date:** 04/27/22

Method Blank Analysis
Batch Quality Control

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Date Prepared	Date Analyzed	Analytical Method	Analyst
Microbiological Analysis - Westborough Lab for sample(s): 01-03 Batch: WG1626867-1										
E. Coli (MPN)	<1		MPN/100ml	1	NA	1	-	04/13/22 15:30	121,9223B	TL
Microbiological Analysis - Westborough Lab for sample(s): 01-03 Batch: WG1626935-1										
Coliform, Fecal (MF)	ND		col/100ml	1.0	NA	1	-	04/13/22 16:59	121,9222D	JW
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1626963-1										
Chlorine, Total Residual	ND		mg/l	0.02	--	1	-	04/13/22 23:44	121,4500CL-D	AS
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1626997-1										
Surfactants, MBAS	ND		mg/l	0.050	--	1	04/14/22 01:30	04/14/22 04:02	121,5540C	KA
General Chemistry - Westborough Lab for sample(s): 01-02 Batch: WG1627569-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/15/22 13:00	04/15/22 21:37	121,4500NH3-BH	AT
General Chemistry - Westborough Lab for sample(s): 03 Batch: WG1627887-1										
Nitrogen, Ammonia	ND		mg/l	0.075	--	1	04/16/22 03:14	04/18/22 12:57	121,4500NH3-BH	KP
General Chemistry - Westborough Lab for sample(s): 01-03 Batch: WG1629047-1										
Phosphorus, Total	ND		mg/l	0.010	--	1	04/20/22 10:30	04/20/22 14:54	121,4500P-E	SD

Lab Control Sample Analysis

Batch Quality Control

Project Name: STOUGHTON FY22 OUTFALLS

Project Number: 295.2010

Lab Number: L2219185

Report Date: 04/27/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1626963-2								
Chlorine, Total Residual	104		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1626997-2								
Surfactants, MBAS	98		-		90-110	-		
General Chemistry - Westborough Lab Associated sample(s): 01-02 Batch: WG1627569-2								
Nitrogen, Ammonia	105		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 03 Batch: WG1627887-2								
Nitrogen, Ammonia	98		-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 Batch: WG1629047-2								
Phosphorus, Total	97		-		80-120	-		

Matrix Spike Analysis
Batch Quality Control

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010

Lab Number: L2219185
Report Date: 04/27/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1626963-4 QC Sample: L2219146-02 Client ID: MS Sample												
Chlorine, Total Residual	ND	0.25	0.27	108		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1626997-4 QC Sample: L2219187-01 Client ID: MS Sample												
Surfactants, MBAS	ND	0.4	0.430	108		-	-		52-157	-		32
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1627569-4 QC Sample: L2217853-02 Client ID: MS Sample												
Nitrogen, Ammonia	0.199	4	3.79	90		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG1627887-4 QC Sample: L2217954-01 Client ID: MS Sample												
Nitrogen, Ammonia	4.62	4	8.58	99		-	-		80-120	-		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1629047-3 QC Sample: L2219111-01 Client ID: MS Sample												
Phosphorus, Total	42.5	12.5	57.3	118		-	-		75-125	-		20

Lab Duplicate Analysis

Batch Quality Control

Project Name: STOUGHTON FY22 OUTFALLS

Project Number: 295.2010

Lab Number: L2219185

Report Date: 04/27/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1626963-3 QC Sample: L2219146-01 Client ID: DUP Sample						
Chlorine, Total Residual	ND	ND	mg/l	NC		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1626997-3 QC Sample: L2219187-01 Client ID: DUP Sample						
Surfactants, MBAS	ND	ND	mg/l	NC		32
General Chemistry - Westborough Lab Associated sample(s): 01-02 QC Batch ID: WG1627569-3 QC Sample: L2217853-02 Client ID: DUP Sample						
Nitrogen, Ammonia	0.199	0.265	mg/l	**28**	Q	20
General Chemistry - Westborough Lab Associated sample(s): 03 QC Batch ID: WG1627887-3 QC Sample: L2217954-01 Client ID: DUP Sample						
Nitrogen, Ammonia	4.62	4.78	mg/l	3		20
General Chemistry - Westborough Lab Associated sample(s): 01-03 QC Batch ID: WG1629047-4 QC Sample: L2219111-01 Client ID: DUP Sample						
Phosphorus, Total	42.5	42.3	mg/l	0		20

Project Name: STOUGHTON FY22 OUTFALLS
Project Number: 295.2010

Lab Number: L2219185
Report Date: 04/27/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2219185-01A	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-01B	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-01C	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-01D	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-01E	Plastic 120ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2219185-01F	Plastic 500ml H2SO4 preserved	A	<2	<2	4.6	Y	Absent		TPHOS-4500(28),NH3-4500(28)
L2219185-01G	Plastic 950ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2219185-02A	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-02B	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-02C	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-02D	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-02E	Plastic 120ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2219185-02F	Plastic 500ml H2SO4 preserved	A	<2	<2	4.6	Y	Absent		TPHOS-4500(28),NH3-4500(28)
L2219185-02G	Plastic 950ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2219185-03A	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-03B	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		E-COLI-QT(.33)
L2219185-03C	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-03D	Bacteria Cup Na2S2O3 preserved	A	NA		4.6	Y	Absent		F-COLI-MF(.33)
L2219185-03E	Plastic 120ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)
L2219185-03F	Plastic 500ml H2SO4 preserved	A	<2	<2	4.6	Y	Absent		TPHOS-4500(28),NH3-4500(28)
L2219185-03G	Plastic 950ml unpreserved	A	7	7	4.6	Y	Absent		TRC-4500(1),MBAS-5540(2)

*Values in parentheses indicate holding time in days

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Report Format: Data Usability Report

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: Data Usability Report

Project Name:	STOUGHTON FY22 OUTFALLS	**Lab Number:**	L2219185
Project Number:	295.2010	**Report Date:**	04/27/22

REFERENCES

121 Standard Methods for the Examination of Water and Wastewater. APHA-AWWA-WEF. Standard Methods Online.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N**, SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb**,** As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 4/13/22

ALPHA Job #: L2219185

ALPHA ANALYTICAL
8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Project Information

Project Name: Stoughton FY22 Outfalls

Project Location: Stoughton, MA

Project #:

Project Manager:

ALPHA Quote #:

Report Information - Data Deliverables

☒ ADEx ☒ EMAIL

Billing Information

☒ Same as Client info PO #:

Client Information

Client: Environmental Partners

Address: 1900 Crown Colony Dr #402
Quincy MA

Phone: 207 937 3883

Email: aet@envpartners.com

Regulatory Requirements & Project Information Requirements

☐ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☒ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved!)

Date Due:

Additional Project Information:

MS4

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint

SAMPLE INFO: Filtration ☐ Field ☒ Lab to do; Preservation ☒ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	E Coli + Fecal Coliform	Surfactants	TRC	Ammonia	Total Phosphorus	Sample Comments	TOTAL # BOTTLES
19185-01	OF-545	4/13/22	9:55	Storm water	AET	X	X	X	X	X		
-02	OF-728	↓	10:35	↓	↓	X	X	X	X	X		
-03	OF-806	↓	11:35	↓	↓	X	X	X	X	X		

Container Type

Preservative

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	4/13/22 12:55	[signature] AAL	4/13/22 12:55
[signature] AAL	4/13/22 14:15	[signature] AAL	4/13/22 1415

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

Certification

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”

Printed Name

Signature _____ Date

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: July 21, 2023

To Marc Tisdelle P.E.- Town Engineer

From Scott Turner P.E. – Director of Planning, Environmental Partners

CC Laurence Langlois – GIS Manager and Stormwater Coordinator, Town of Stoughton

Paul Giffune – DPW Superintendent, Town of Stoughton

Karen Chan – Project Scientist, Environmental Partners

Subject: Illicit Discharge Detection & Elimination (IDDE) Year 5 Catchment Investigations Findings and Recommendations

This memorandum summarizes the Illicit Discharge Detection & Elimination (IDDE) catchment investigations, outlined in Task 2c of the contract for Professional Engineering Services for the Municipal Separate Storm Sewer System (MS4) General Permit between the Town of Stoughton and Environmental Partners Group LLC (EP), signed May 5, 2022. In accordance with the 2016 Massachusetts MS4 General Permit, the Town of Stoughton must perform catchment investigations at each of the Town's 147 catchments by the end of the Permit term (i.e., Year 10).

During dry weather conditions, EP visited 92 catchments between March 21, 2023, and April 27, 2023. Catchment investigations at 72 catchments were fully completed, initial field investigations were completed at 10 catchments and require additional Town follow up, and catchment investigation at 11 catchments are incomplete and require Town assistance to complete the field work.

Additionally, 15 new outfalls were identified in the field and added to the outfall inventory and 11 outfalls were removed from the inventory. Outfalls removed from the inventory were either identified as being private, part of a different Town's collection system, or re-classified as a culverted stream. As such, with the new outfall count has been updated to **152 outfalls**.

The investigated catchments were based on the Town's outfall-catchment ranking table. EP targeted outfall-catchments that were ranked as "high priority" based on outfall screenings conducted in June 2019 for investigation. The locations of the investigated catchments are listed in **Table 1: Catchment Investigation Locations** and in **Figure 1: Catchment Investigation Progress**. Catchment packages for each catchment investigated are attached to this report and contain field forms summarizing the work and findings.

During these catchment investigations, EP followed the catchment investigation methodology detailed in the MS4 General Permit. This methodology can be summarized as follows:

- EP verified stormwater mapping,
- EP identified the key junction manholes (KJMs) for each catchment and inspected them during dry weather, starting at the most downstream location,
- At each KJM, EP completed a field form noting the structure's condition, presence and source of any flow, and the invert, diameter, and material of the structure and all inlet and outlet pipes. In addition, pictures were taken of the inside and outside of the structure. The KJM field forms are attached to this memorandum,
- If flow was found in a KJM, EP used field test kits to screen for ammonia, total chlorine, and surfactants,
- If field sampling results or visual and olfactory inspection indicated potential illicit discharges, the upstream area was flagged for further investigation,
- EP continued inspecting and, if flowing, sampling all KJMs until the whole catchment was evaluated,
- Refined catchment delineations were developed in the office after field work was complete,
- EP worked with the Town to identify system vulnerability factors (SVFs) within each catchment, and
- If no evidence of illicit connections were found, the catchment investigation is considered complete.

Manhole/Catch Basin Sampling Results

A summary of the field sampling results is presented in **Table 2**. Environmental Partners sampled a total of 24 structures for field analysis. Flow was encountered at 19 outfall catchments, which include:

- OF-105 (54-62 Campanelli Parkway)
- OF-109 (1-99; 2-98 O' Hare Circle)
- OF-192 (63 York Street)
- OF-207 (16 Overlook Road)
- OF-322 (7 McNamara Street)
- OF-350 (24 Dino Drive)
- OF-378 (12 Highland Rock Drive)
- OF-380-(97 Holland Avenue)
- OF-399 (2399 Bay Road)
- OF-453 (128 Swanson Terrace)
- OF-458 (10 Flynn Road)
- OF-459 (4 Fraser Road)
- OF-54 (171 Atkinson Avenue)
- OF-55 (69 Atkinson Avenue)
- OF-60 (30 Jeffrey Way)
- OF-792 (G2 Central Drive)
- OF-803 (150 Eagle Rock Road)
- OF-807 (14 Chase Run)
- OF-809- (1151 Turnpike Street)

Out of the 24 sampled structures, 19 structures showed detectable total chlorine. Surfactants, also known as detergents, were present in concentrations between 0.25 and 0.50 mg/L in all structures sampled. Lastly, detectable ammonia was only found in one structure. In accordance with the MS4 Permit, these field test results alone do not indicate the presence of an illicit discharge. A summary of the sampling kit results is presented in **Table 2: Stormwater Field Test Kit Analysis Results.**

Catchment Investigation Findings

During field investigations, some structures were identified as needing maintenance or replacement, and additional Town follow-up. Maintenance/replacement needs, and additional Town follow-up are summarized below.

Required Town Follow-up for Incomplete Catchments

- Outfall -catchment OF-151 (202 Morton Street)
    - The structures are in a high trafficked area. Police detail or Town assistance to direct traffic is needed.
- Outfall-catchment OF-195 (Intersection of Meadowbrook Lane and York Street)
    - Could not locate any structures upstream of SWMH-1492. Town to confirm connectivity and if line is still active.
        - Additionally, a private outfall was identified and flowing behind 94 York Drive. Town to further investigate and confirm that the discharge from the outfall is not an illicit discharge by the end of the permit term (2028).
- Outfall-catchment OF-211 (524 Highland Street)
    - Could not locate SWMH-605 or SWMH-606. Town to confirm location of manholes.
        - During field investigations, the manholes appeared to be buried in the grass.
- Outfall-catchment OF-217 (42 Ash Park Drive)
    - Could not open SWMH-760. When opening the structure, both the frame and cover were coming off together. Town to assist with opening the structure. Replacement of the fareme and cover is recommended.
        - The catchment was listed as “incomplete” during the Year 4 investigations as SWMH-760 could not be opened. The catchment was attempted again in Year 5, but the manhole was still inaccessible.
- Outfall-catchment OF-350 (24 Dino Drive)
    - Revisited and re-sampled catchment at SWMH-12. During the Year 4 catchment investigations, the catchment was flowing and had a high detectable total chlorine reading (3.4 mg/L). In Year 5, the catchment was re-sampled, and the catchment showed a detectable total chlorine reading but not as high as Year 4 (0.07 mg/L).
        - The upstream manhole, SWMH-11, was dry, indicating that flow is entering system between the two manholes. The catchment should be sampled yearly to further verify the presence of total chlorine or an illicit discharge. High total chlorine readings suggest there may be an intermittent illicit discharge entering this catchment or the stream upstream, the catchment.
        - Town to assist in determining the source of flow. Closed circuit television (CCTV) or dye testing the structure or line is suggested.

Outfall-catchment OF-458 (10 Flynn Road)

- Revisited and re-sampled catchment at SWMH-1721. During the Year 4 catchment investigations, the catchment was flowing and had a high surfactants reading (3.0 mg/L). In Year 5, the catchment was re-sampled, and the catchment showed detectable surfactants reading but not as high as Year 4 (0.25 mg/L).

        - The catchment should be sampled yearly to further verify the presence of surfactants or an illicit discharge. High surfactants readings suggest there may be an intermittent illicit discharge entering this catchment or the stream upstream, the catchment.
        - Town to assist in determining the source of flow. If an illicit discharge is found, the connection should be removed. Closed circuit television (CCTV) of the structure or line is suggested.
- Outfall-catchment OF-459 (4 Fraser Road)
    - Revisited and re-sampled catchment at SWMH-1718. During the Year 4 catchment investigations, the catchment was flowing and had a high surfactants reading (between 0.5 mg/L-2.0 mg/L). In Year 5, the catchment was re-sampled, and the catchment showed similar surfactants readings as Year 4 (2.0 mg/L).
        - The catchment should be sampled yearly to further verify the presence of surfactants or an illicit discharge. High surfactants readings suggest there may be an intermittent illicit discharge entering this catchment or the stream upstream, the catchment.
        - Town to assist in determining the source of flow. Closed circuit television (CCTV) of the structure or line is suggested.
- Outfall-catchment OF-553O-1 (1782 West Street)
    - A new outlet was found on West Street. The outlet looked relatively new but dry. Field crew could not locate any upstream structures or an inlet connecting to outlet. The outlet is located within 100 feet of a waterbody.
        - Furter investigation is needed to determine if the outlet is an abandoned culverted stream or if there are any upstream structures. If upstream structures do exist, they are likely buried.
- Outfall-catchment OF-669 (951 Pleasant Street)
    - Additional Town access to the Little Theater of Stoughton parking lot is needed to investigate the upstream structure.
- Outfall-catchment OF-807 (14 Chase Run)
    - Grease and floatables were found in and on the grate of catch basin SWIN-677. Due to the amount of grease, floatables and turbidity, pH, temperature, specific conductivity, and total chlorine could not be measured.
        - An ammonia reading of 6.0 gm/L and an estimated surfactants reading of 0.25 mg/L were found. These readings suggest a possible illicit discharge. Town to further determine the source of the grease and floatables. Additionally, cleaning of the structure is required.
        - Grease and floatables were not found in the downstream manhole, SWMH-34, or outlet OF-727.

Suggested Town Follow-up for Catchments with Initial Catchment Field Work Complete

- Outfall-catchment OF-55 (107 Atkinson Avenue)
    - Additional Town assistance is needed to confirm connectivity, specifically at the intersection of Chase Run and Summer Street. Between manholes SWMH-33 and SWMH-107, the flow direction appeared to change but could not be confirmed.
- Outfall-catchment OF-65 (1810 Central Street)
    - Additional Town assistance is needed to confirm connectivity between structures SWIN-1923 and SWMH-1235. In GIS, there is an outgoing line leaving SWIN-1923 and an incoming line entering SWMH-1235, however, the two lines were not found in the field.
- Outfall-catchment OF-322 (166 Kotilk Street)
    - Additional Town assistance is needed to open stormwater on McNamara Street and Poskus Street (SWMH-281, SWMH-282, SWMH-322 and SWMH-633). The manhole covers and frames were rusted over, thus not allowing the field crew to open the structures.
- Outfall-catchment OF-380 (20 Smyth Street)
    - Additional Town assistance is needed to locate manholes SWMH-294, SWMH-38, SWMH-670, SWIN-1018, and SWIN-927.
    - Additional Town assistance is needed to confirm connectivity within SWMH-292 (incoming line in the direction of 68 Holland Avenue) and SWMH-348 (incoming line in the direction of 27 Smyth Street). In both structures, an incoming line was found but an upstream structure was not found. The assets may either not exist or may be buried.
- Outfall-catchment OF-478 (215 Woodpecker Road)
    - Additional Town assistance is needed to locate catch basins, SWIN-1850 and SWIN-1851.
- Outfall-catchment OF-516 (3 Sumner Street)
    - Additional Town assistance is needed to open manholes SWMH-450, and SWMH-425.
- Outfall-catchment OF-616 (1023 Turnpike Street)
    - Additional Town assistance is needed to confirm connectivity within structure SWMH-2041. In GIS, there is an incoming line entering SWMH-2041, however, the line was not found in the field.
- Outfall-catchment OF-694 (951 Pleasant Street)
    - Additional Town assistance is needed to confirm connectivity of the system on Maple Street. Manhole, SWMH-2272 and catch basin SWIN-3250 were found to connect to Town drainage. Though the structures were found to connect to Town drainage, an outlet structure connected to these structures could not be located.
    - Additionally, EP believes that this outfall is part of a larger system.
- Outfall-catchment OF-739 (104 Page Street)
    - Additional Town assistance is needed to confirm connectivity to manhole SWMH-2009. The drain manholes and catch basins connecting to the incoming line down Page Street towards Route 24 could not be found. Additionally, the incoming line across 104 Page Street could not be located and is assumed to not exist.

Outfall-catchment OF-748 (2070 Central Street)

    - Additional Town assistance is needed to confirm connectivity to catch basin SWIN-1790. A drain line in the direction of 2110 Central Street from SWIN-1790 drains to an unmapped asset. A bell system manhole is in front of 2110 Central Street and a stormwater manhole could not be located.
        - In addition to confirming connectivity, Town is to further confirm if a stormwater manhole exists and to locate where SWIN-1790 discharges to.
- Outfall-catchment OF-769 (1154 Bay Road)
    - Possible interconnection found in manhole SWMH-2312 with Town of Sharon. Additional Town assistance is needed to confirm connectivity.
    - Additional Town assistance is needed to locate catch basins, SWIN-103, SWIN-168, SWIN-296, and SWIN-297 and manholes, SWMH-243 and SWMH-674.

Maintenance Items Noted

- Outfall-catchment OF-109 (81 D Street)
    - Originally marked "Incomplete" during the Year 4 investigations. Manhole, SWMH-2032 was located but could not be opened due to the amount of vegetation on the manhole. To allow future access to the structure, removal of vegetation on the manhole cover is recommended.
- Outfall-catchment OF-217 (42 Ash Park Drive)
    - Replacement of the frame and cover is recommended for SWMH-760 as both the frame and cover were coming off together.
- Outfall-catchment OF-322 (166 Kotilk Street)
    - Replacement of the frame and covers for manholes SWMH-281, SWMH-282, SWMH-322 and SWMH-633. The manhole covers and frames were rusted over and in poor condition.
- Outfall-catchment OF-419 (70 Drinkwater Avenue)
    - Cleaning is recommended at the outfall as the outfall was 50% full of debris.
- Outfall-catchment OF-478 (215 Woodpecker Road)
    - Manhole, SWMH-1061 was covered with vegetation; to allow future access to the structure, removal of vegetation on the manhole cover is recommended.
- Outfall-catchment OF-580 (92 Tremont Street)
    - Catch basin, SWIN-282 was covered with vegetation; to allow future access to the structure, removal of vegetation on the manhole cover is recommended.
- Outfall-catchment OF-616 (1023 Turnpike Street)
    - Cleaning is recommended for catch basin SWIN-2591 and SWIN-2592 as floatables were observed in both structures.

- Outfall-catchment OF-723 (21 Plain Street)
    - Cleaning is recommended at the outfall as the outfall was 90% full of debris. Additionally, the structural integrity of the outfall is in poor condition. Maintenance or further rehabilitation such as lining, or replacement of the outfall is recommended.

- Outfall-catchment OF-754 (1050 Turnpike Street)
    - Cleaning is recommended within catch basins SWIN-2590, SWIN-2569, SWIN-2570 and SWIN-2571 as floatables and/or debris were observed.
- Outfall-catchment OF-759 (155 York Street)
    - Cleaning is recommended at the outfall as the outfall was 90% full of debris.
- Outfall-catchment OF-807 (14 Chase Run)
    - Grease and floatables were found in and on the grate of catch basin SWIN-677. **Immediate cleaning of the structure is required.**

Refined catchment delineations were developed for the 92 catchments visited are shown on **Figure 2: Refined Catchment Delineations**, attached. Also, an SVF analysis was conducted for the catchments visited, and no SVFs were identified for any catchments **Table 3: SVF Assessment** details the SVF assessment.

Recommendations

In conclusion, EP completed catchment investigations at 48 percent of the Town's outfall-catchments (72 out of 152). EP recommends the following:

- Complete the maintenance suggested above, which includes cleaning of structures, and either additional maintenance or replacement of drainage pipes,
- Complete the suggested follow-up suggested above, which includes assisting EP on locating the identified manhole and catch basin structures that could not be located during the catchment investigations, confirming pipe connectivity, and CCTV inspections in unmapped drainage connections. CCTV inspections are recommended up to the property line, and
- Continue IDDE catchment investigations, investigating a portion of the remaining catchments each year for the next 5 years.

Attachments

Certification Page
Figure 1: Catchment Investigation Progress
Figure 2: Refined Catchment Delineations
Table 1: Catchment Investigations Locations
Table 2: Stormwater Field Test Kit Results
Table 3: SVF Assessment
Catchment Packages

MS4 CERTIFICATION PAGE

FIGURE 1

Catchment Investigation Progress

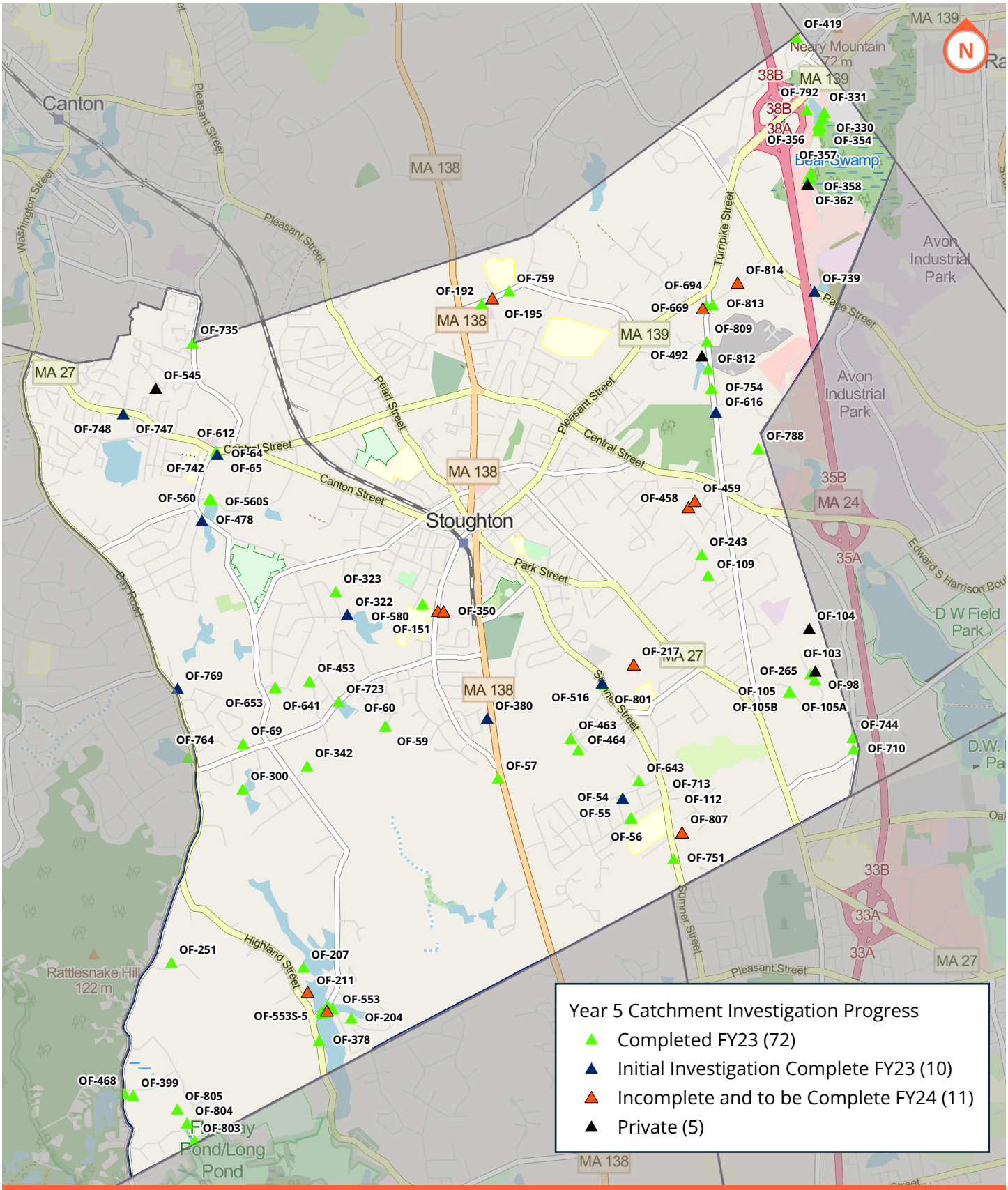


Figure 1

Catchment Investigation Progress

Stoughton, MA

June 2023

ENVIRONMENTAL PARTNERS

An Apex Company

FIGURE 1

Refined Catchment Delineations

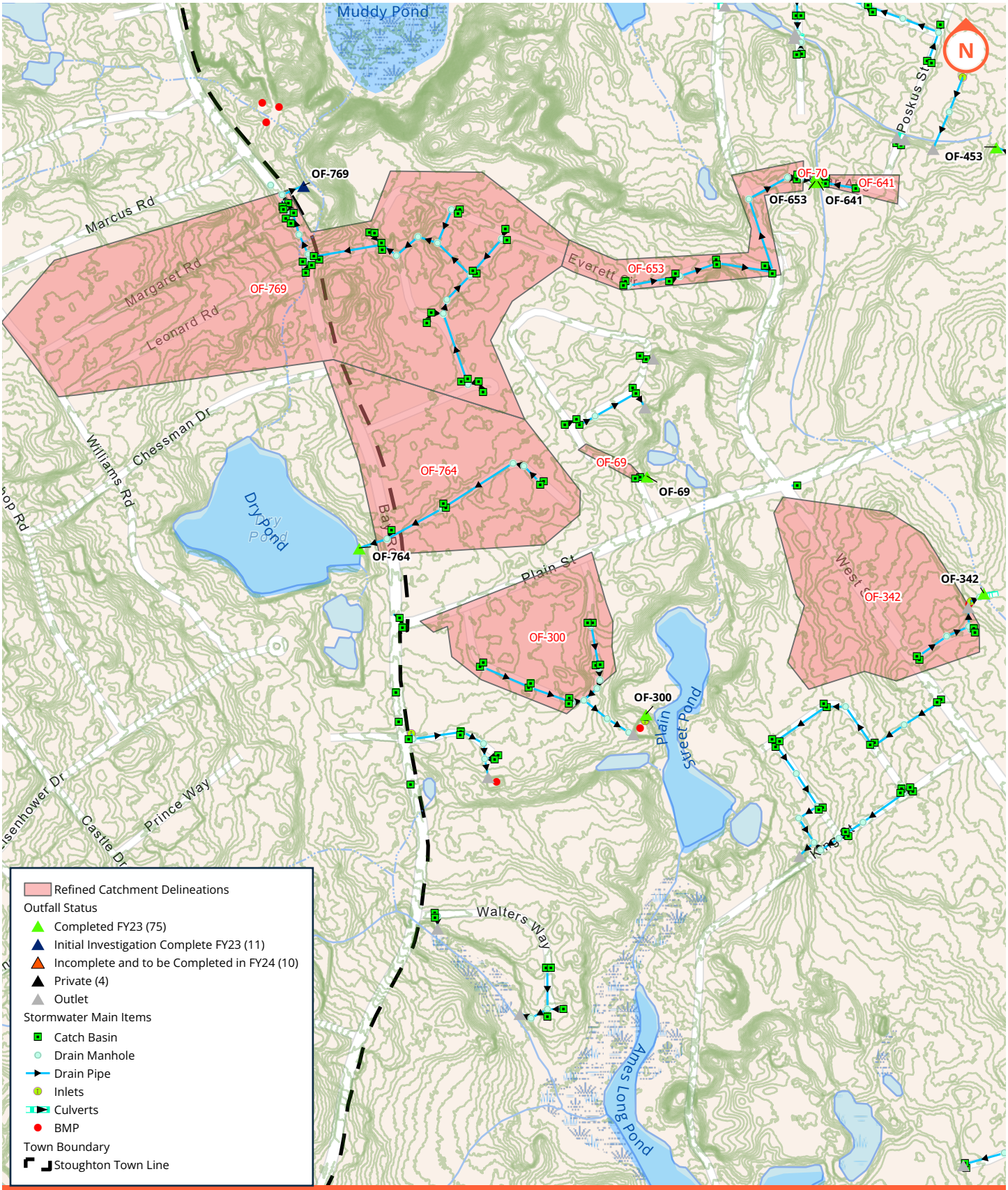
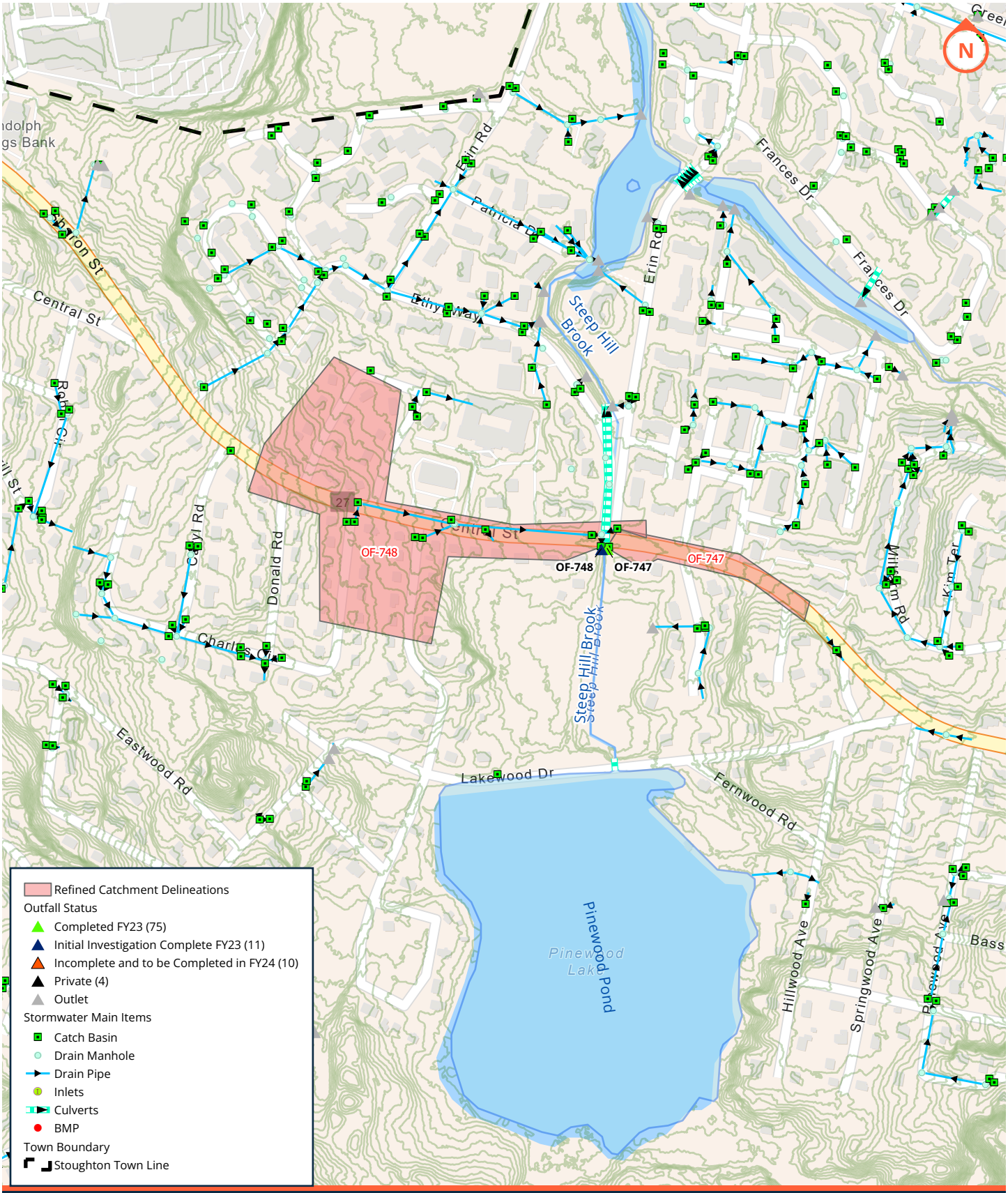


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000 Feet

ENVIRONMENTAL PARTNERS
An Apex Company



ENVIRONMENTAL PARTNERS
An Apex Company

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000 Feet

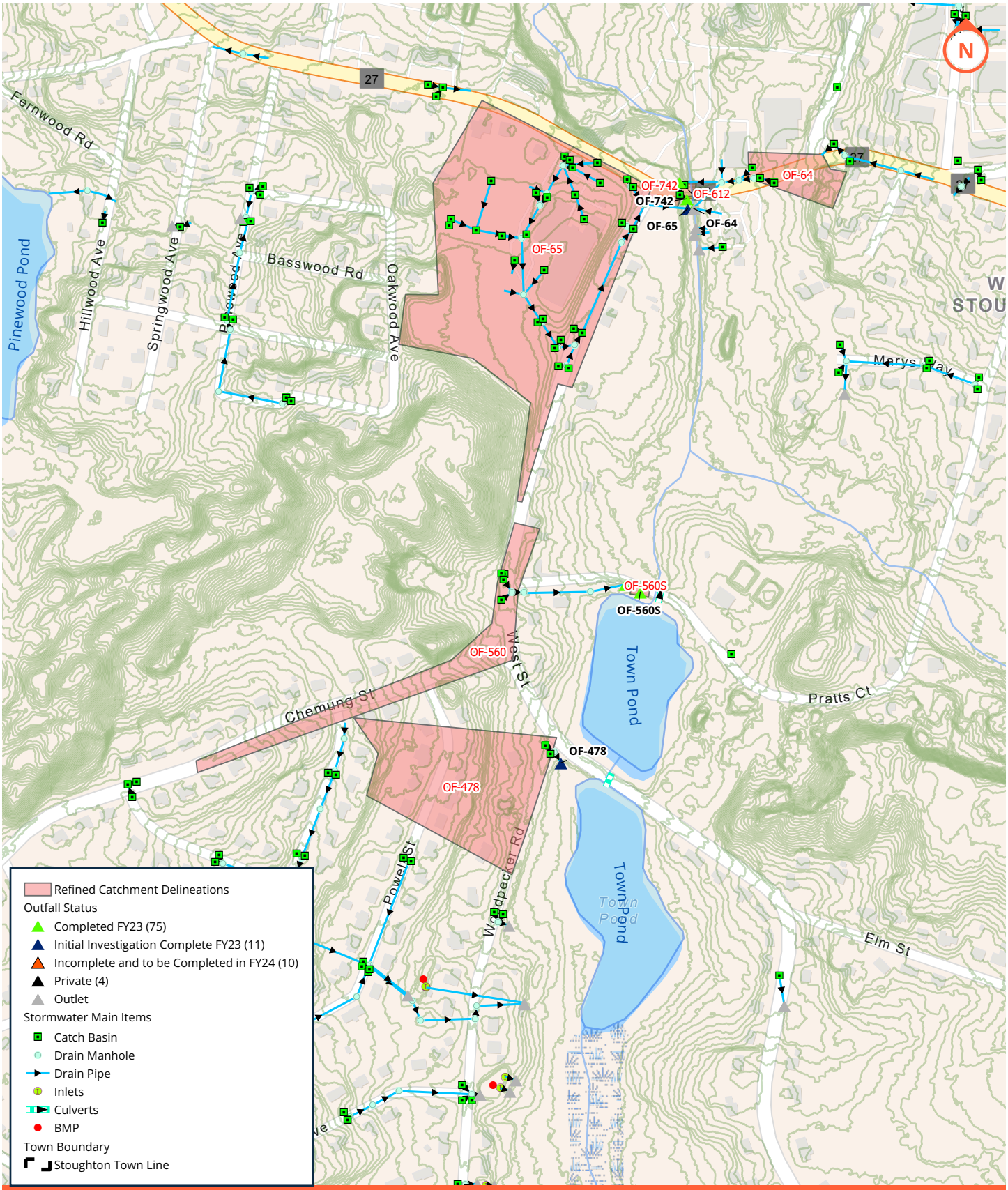


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000
Feet

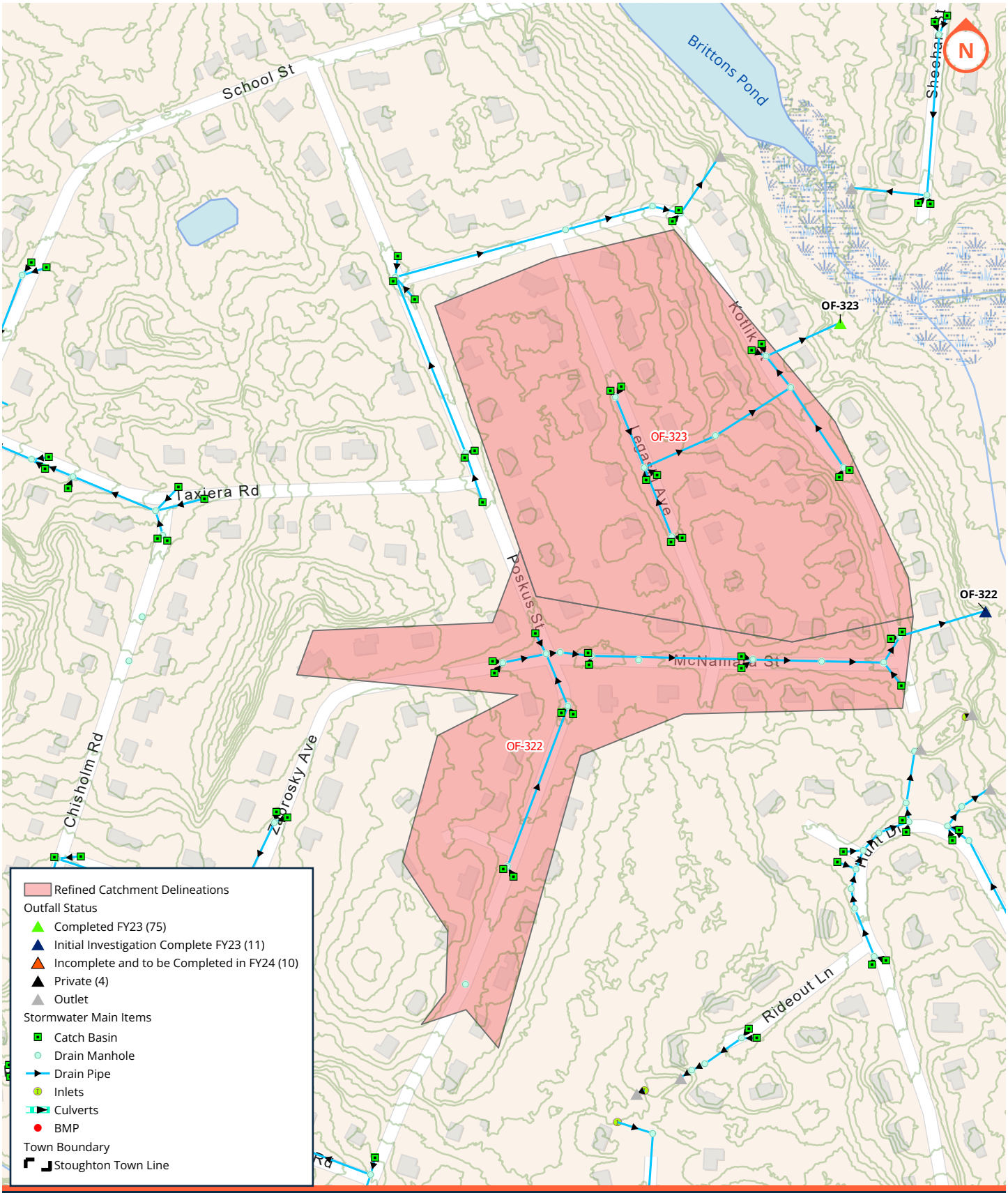
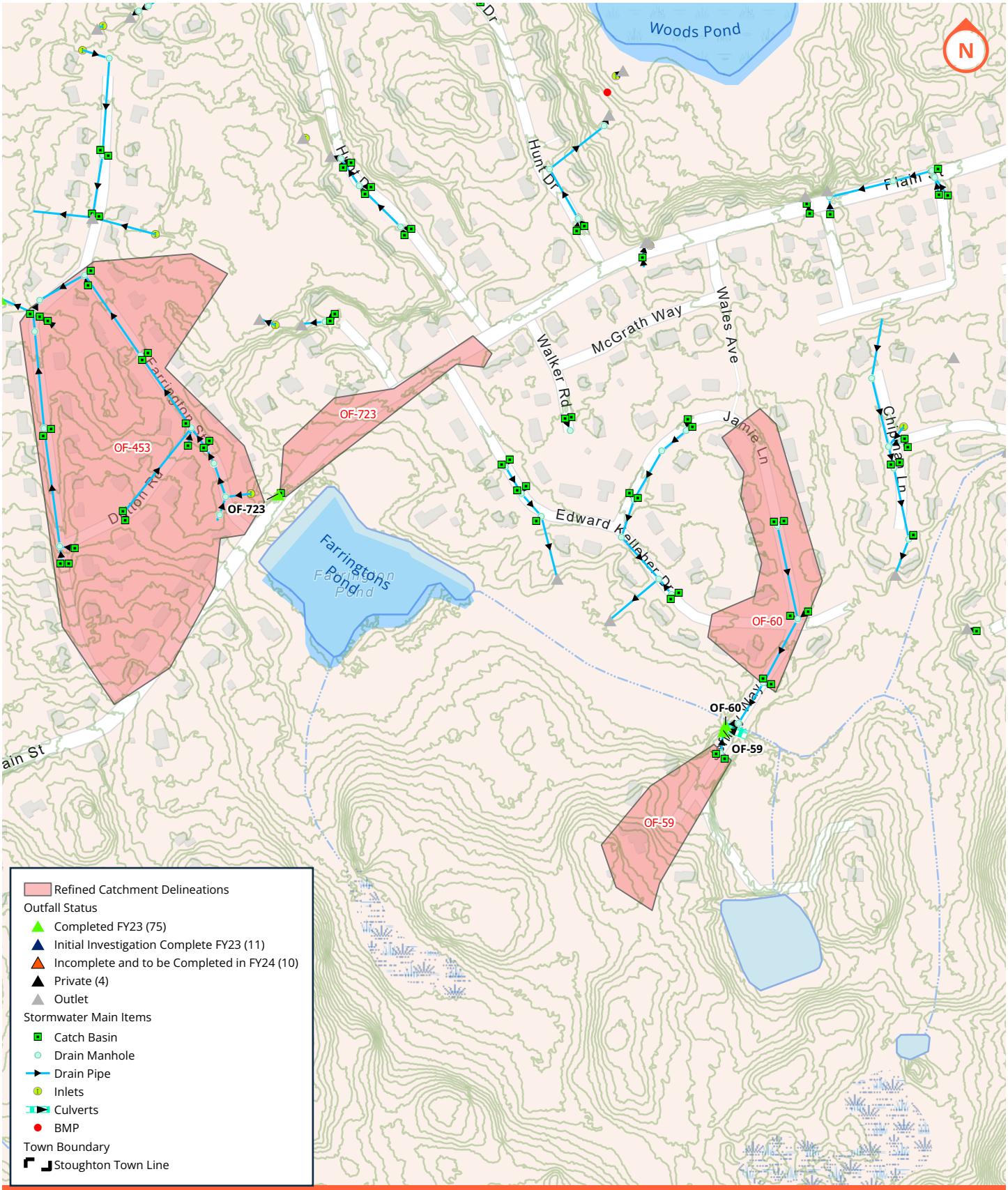


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

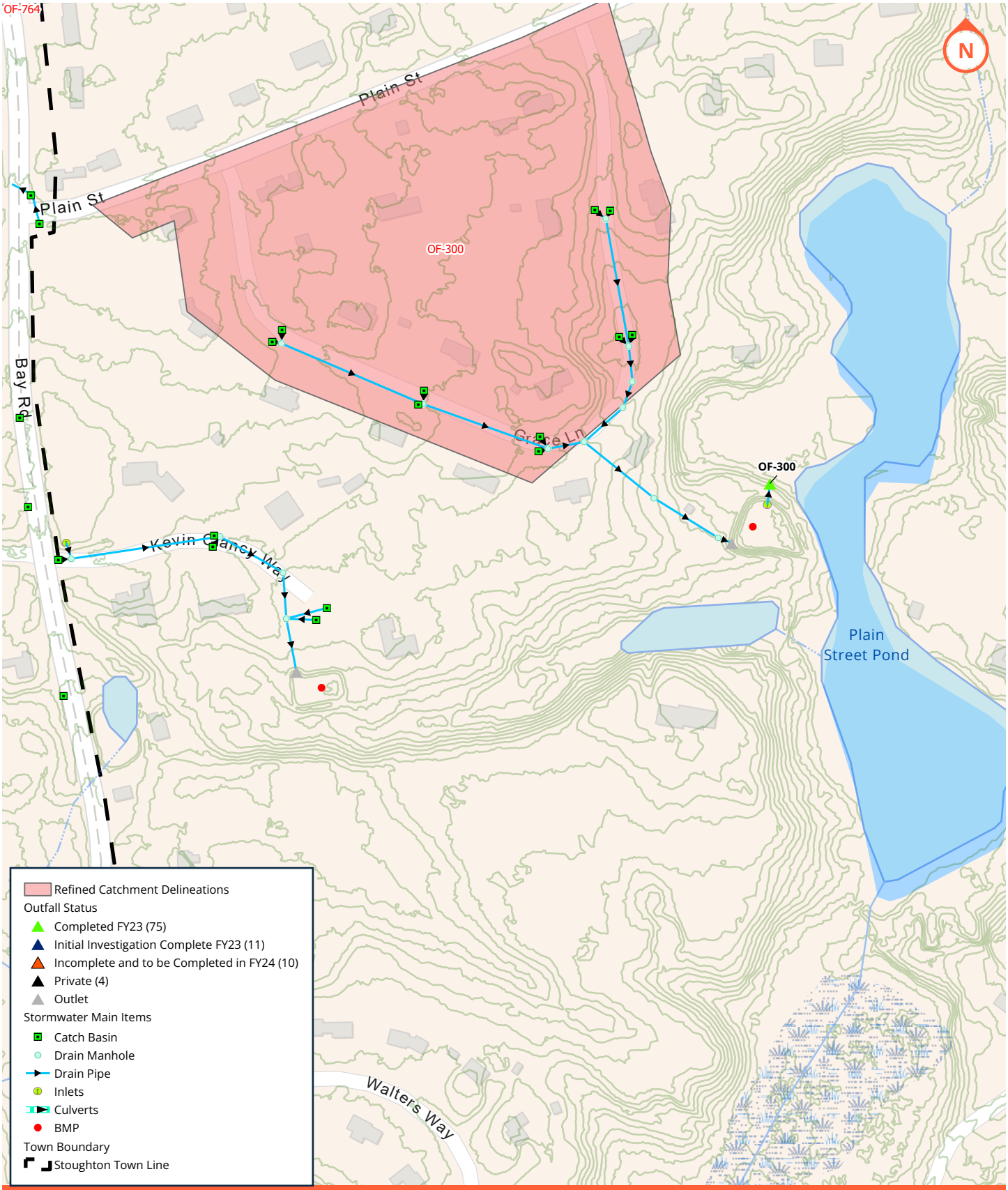
ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000 Feet



ENVIRONMENTAL PARTNERS
An Apex Company

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023



ENVIRONMENTAL PARTNERS
— An Apex Company —

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000 Feet

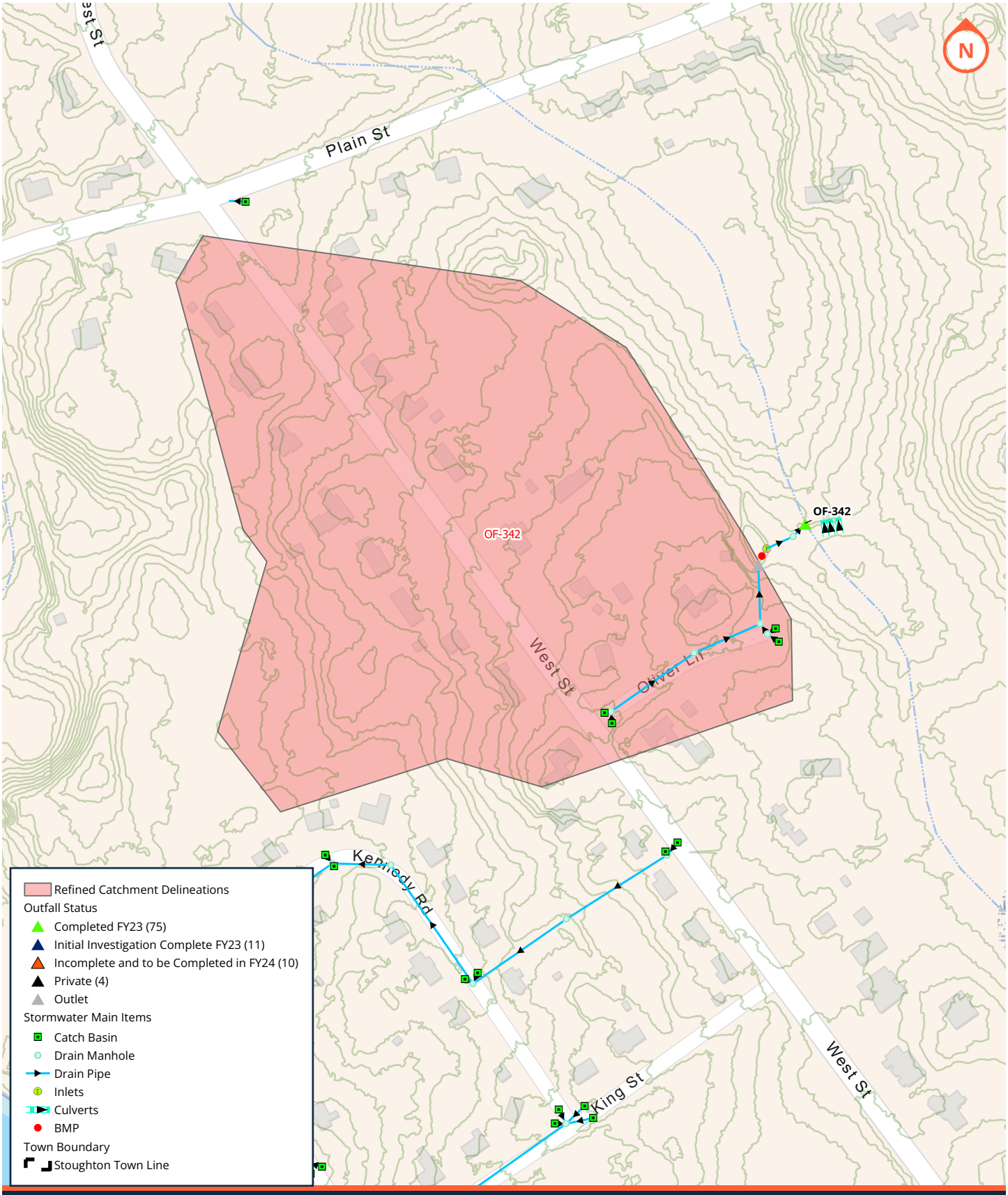


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
— An Apex Company —

0 500 1,000 2,000
Feet

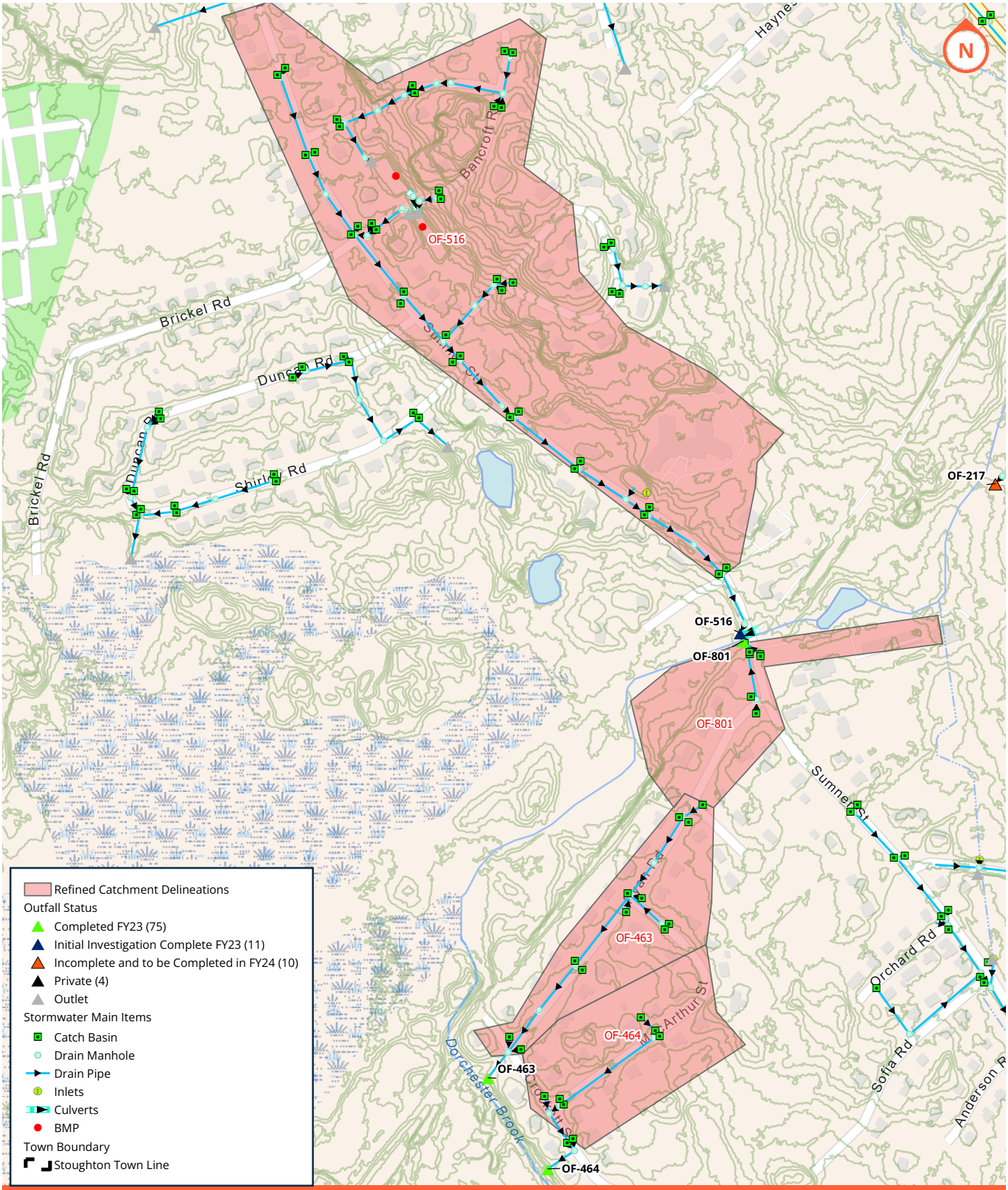


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000
Feet

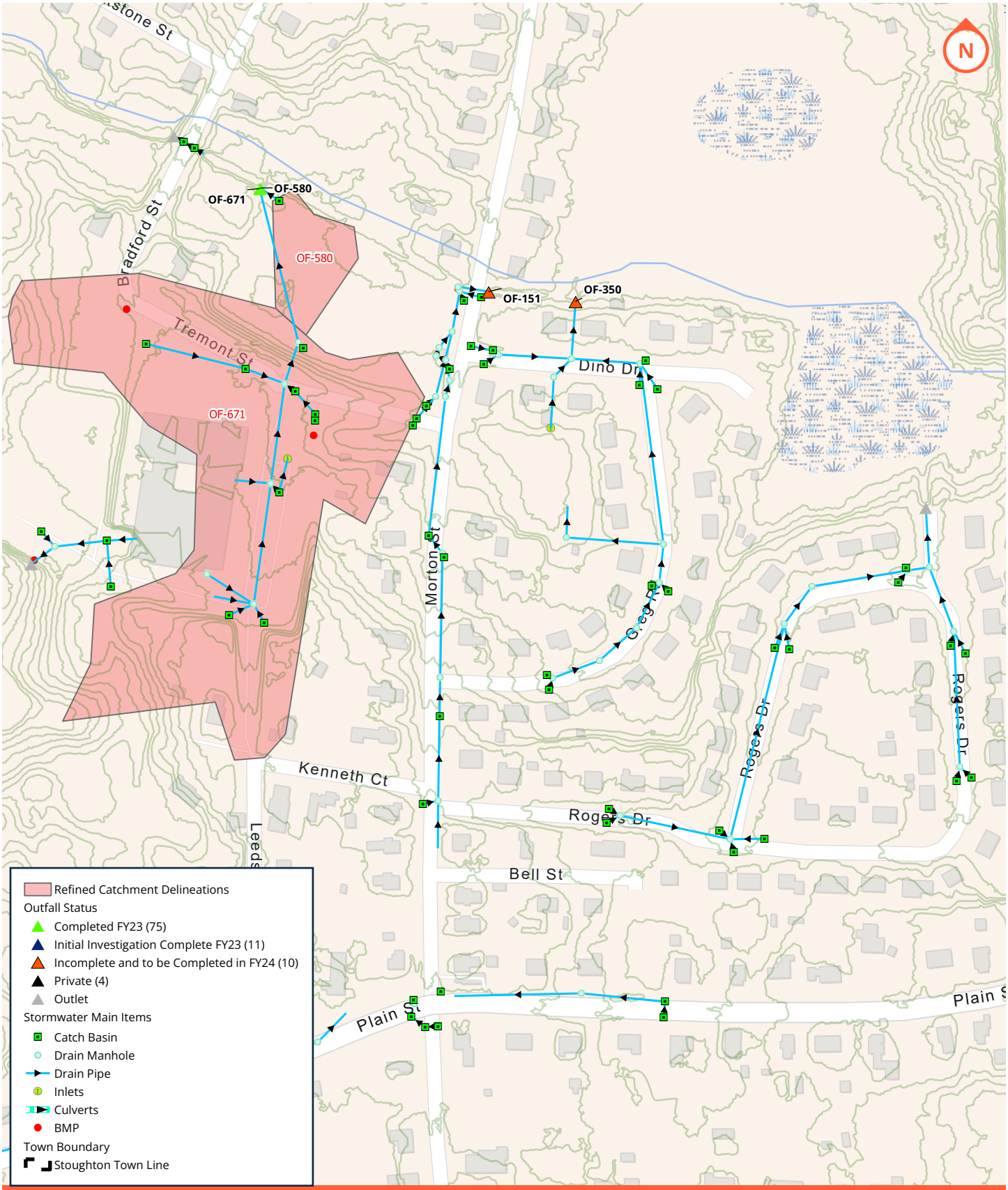


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

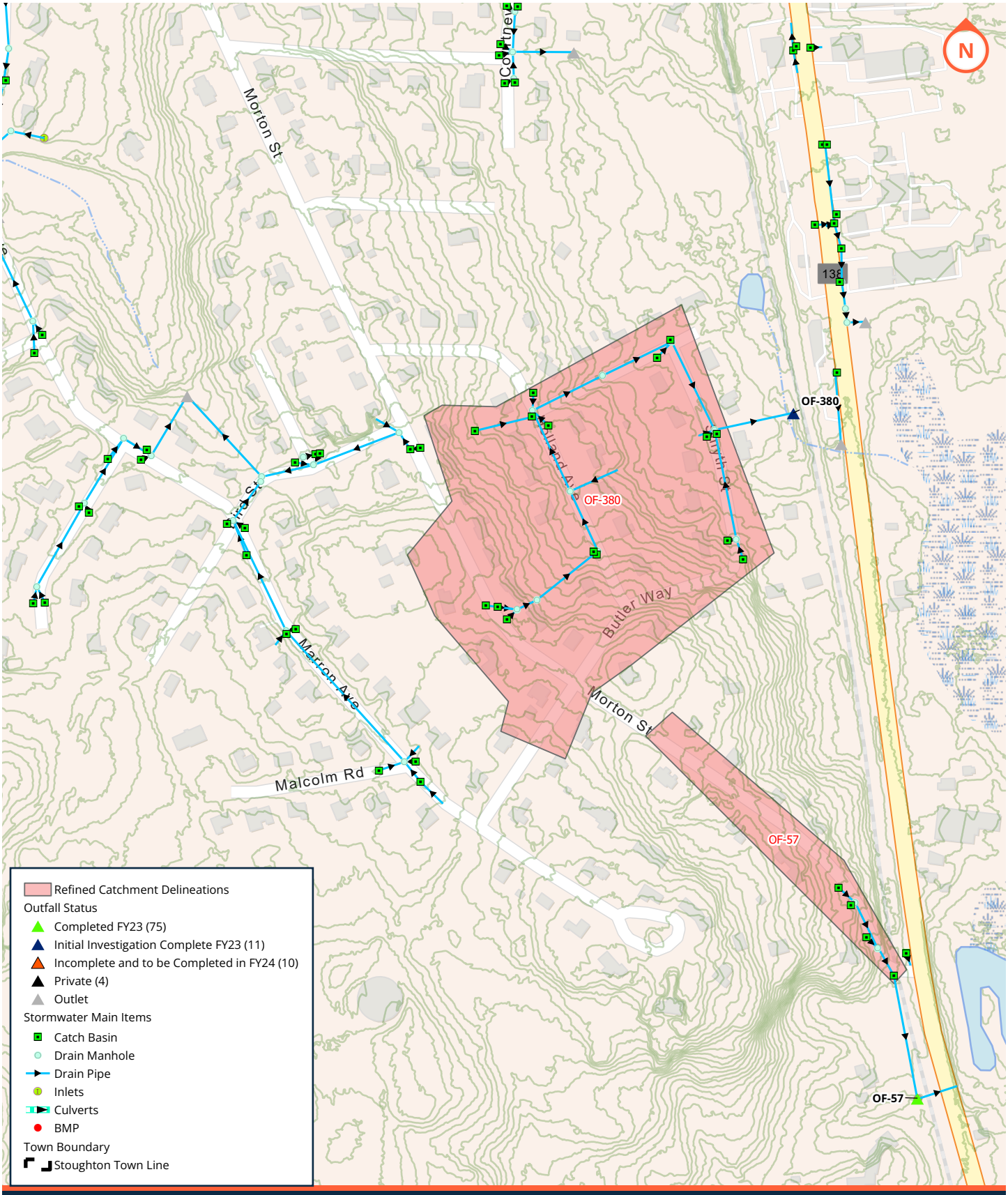


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

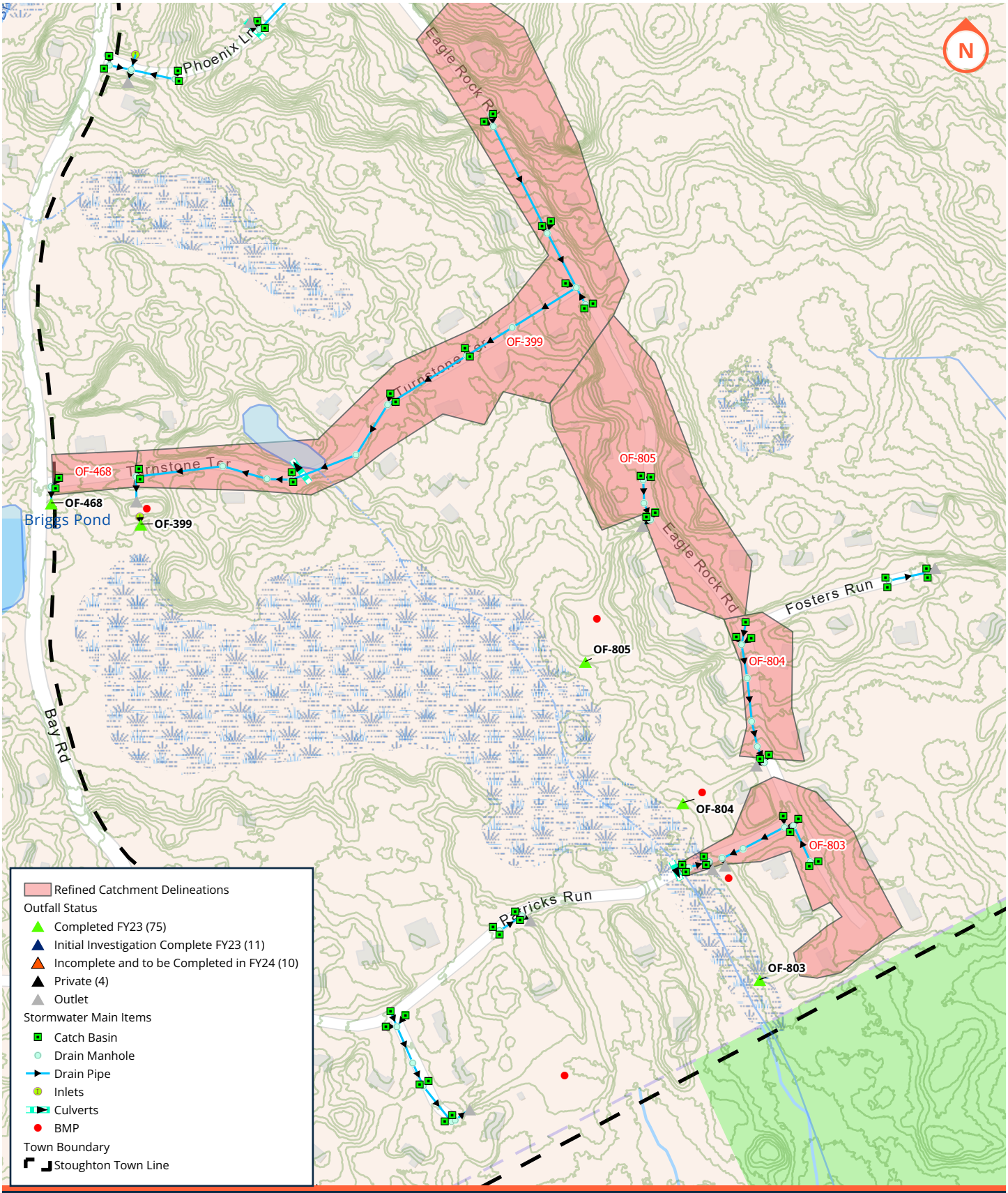


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000
Feet

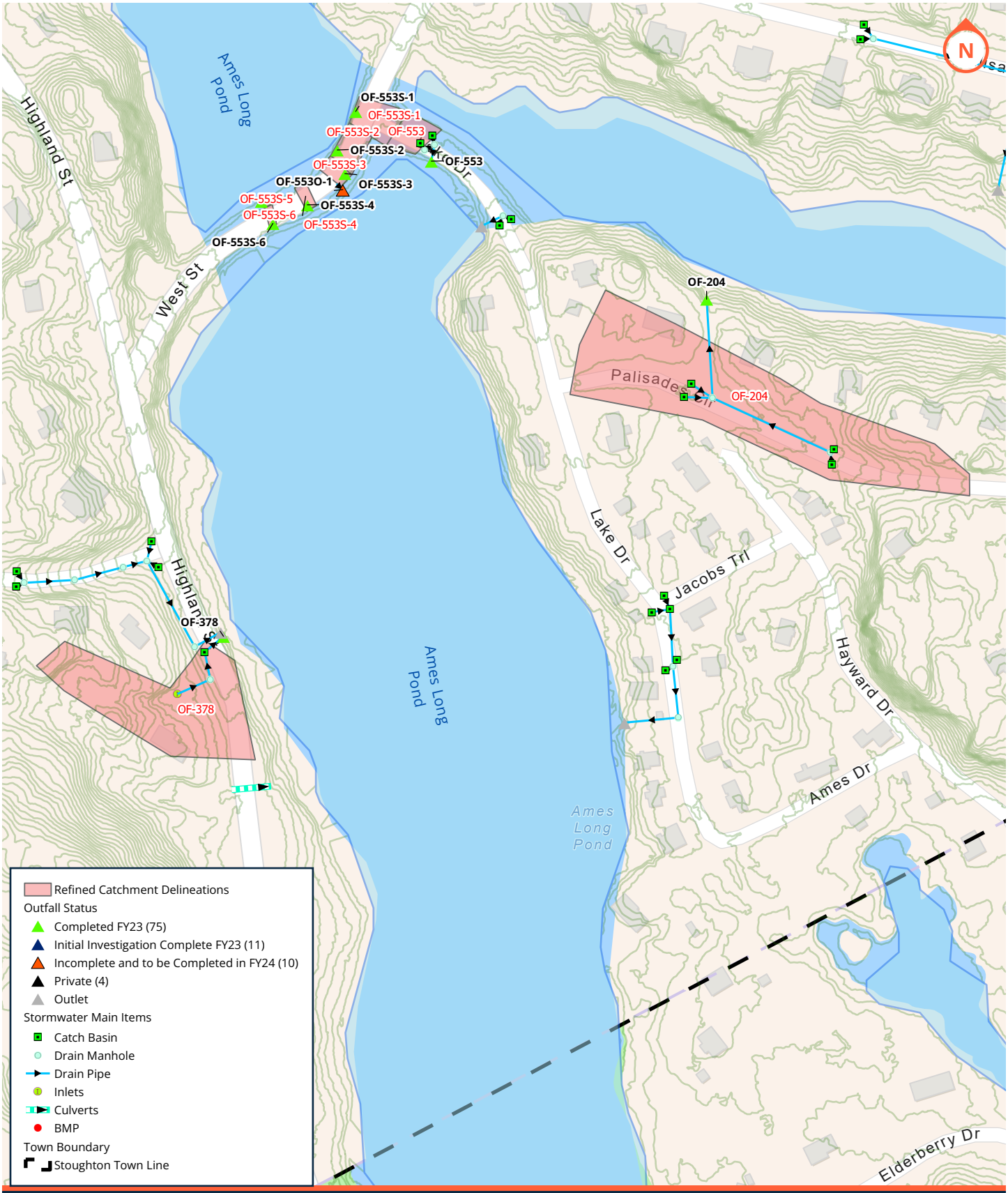
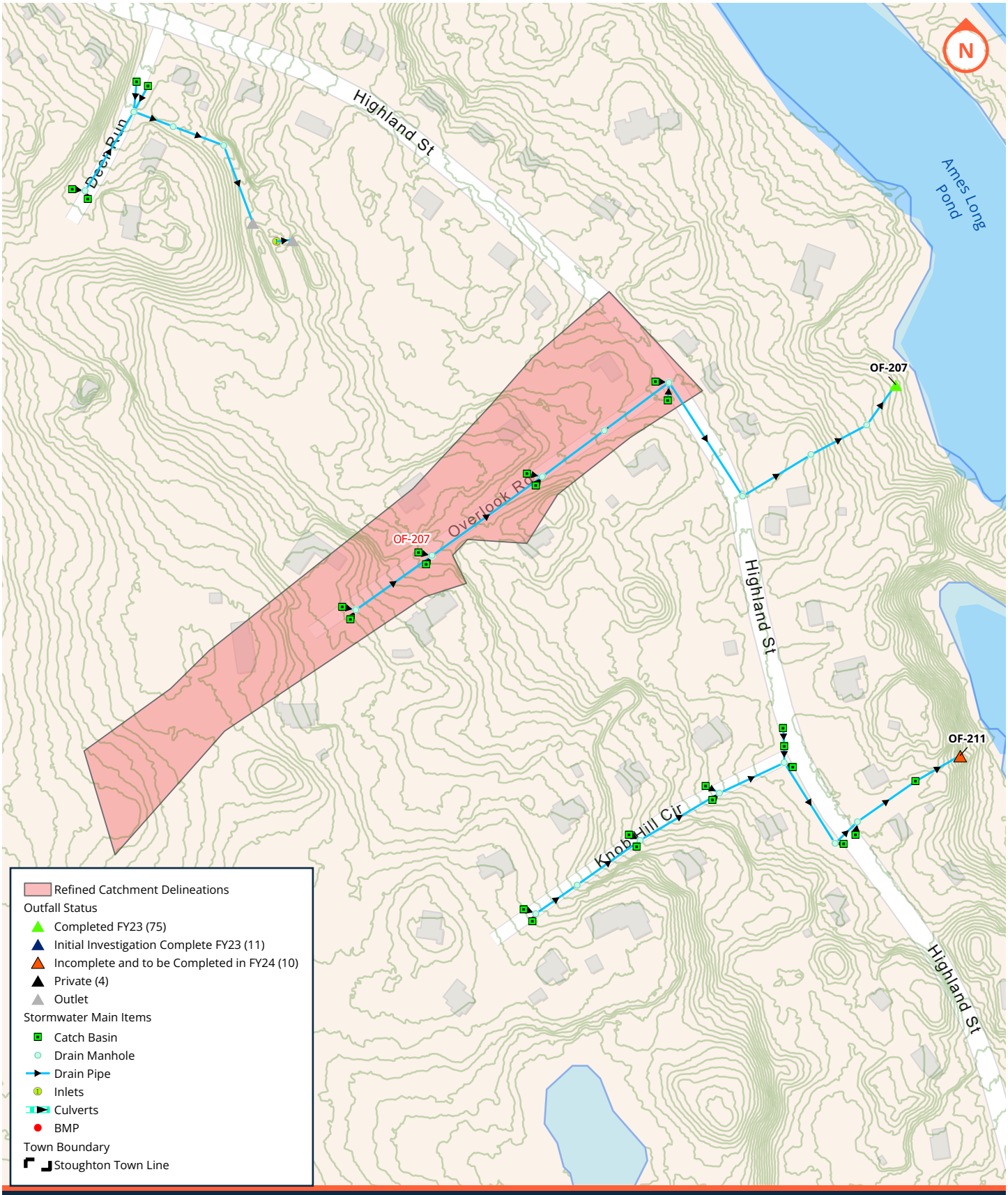


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

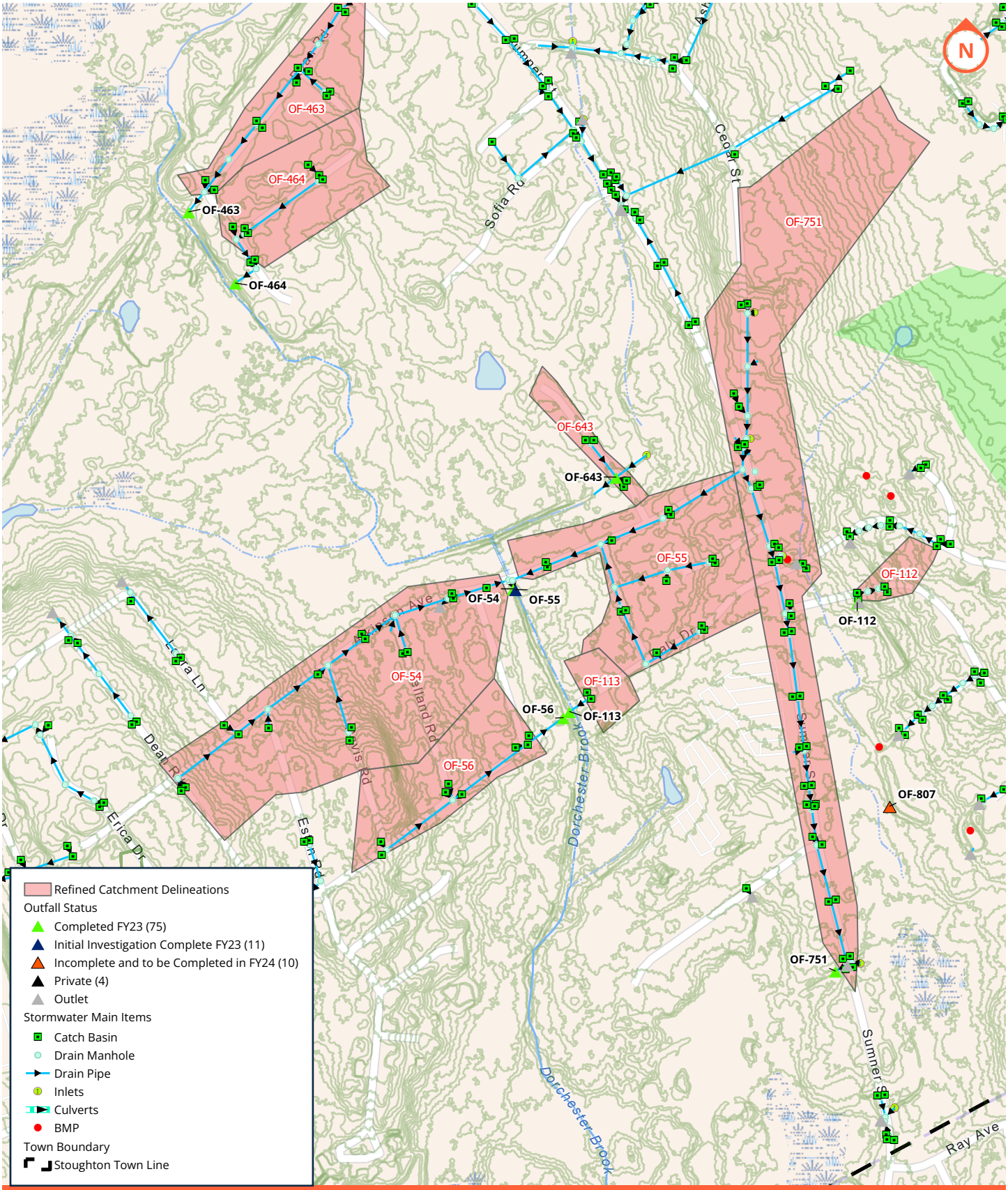
ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000 Feet



ENVIRONMENTAL PARTNERS
— An Apex Company —

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023



ENVIRONMENTAL PARTNERS
An Apex Company

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000
Feet

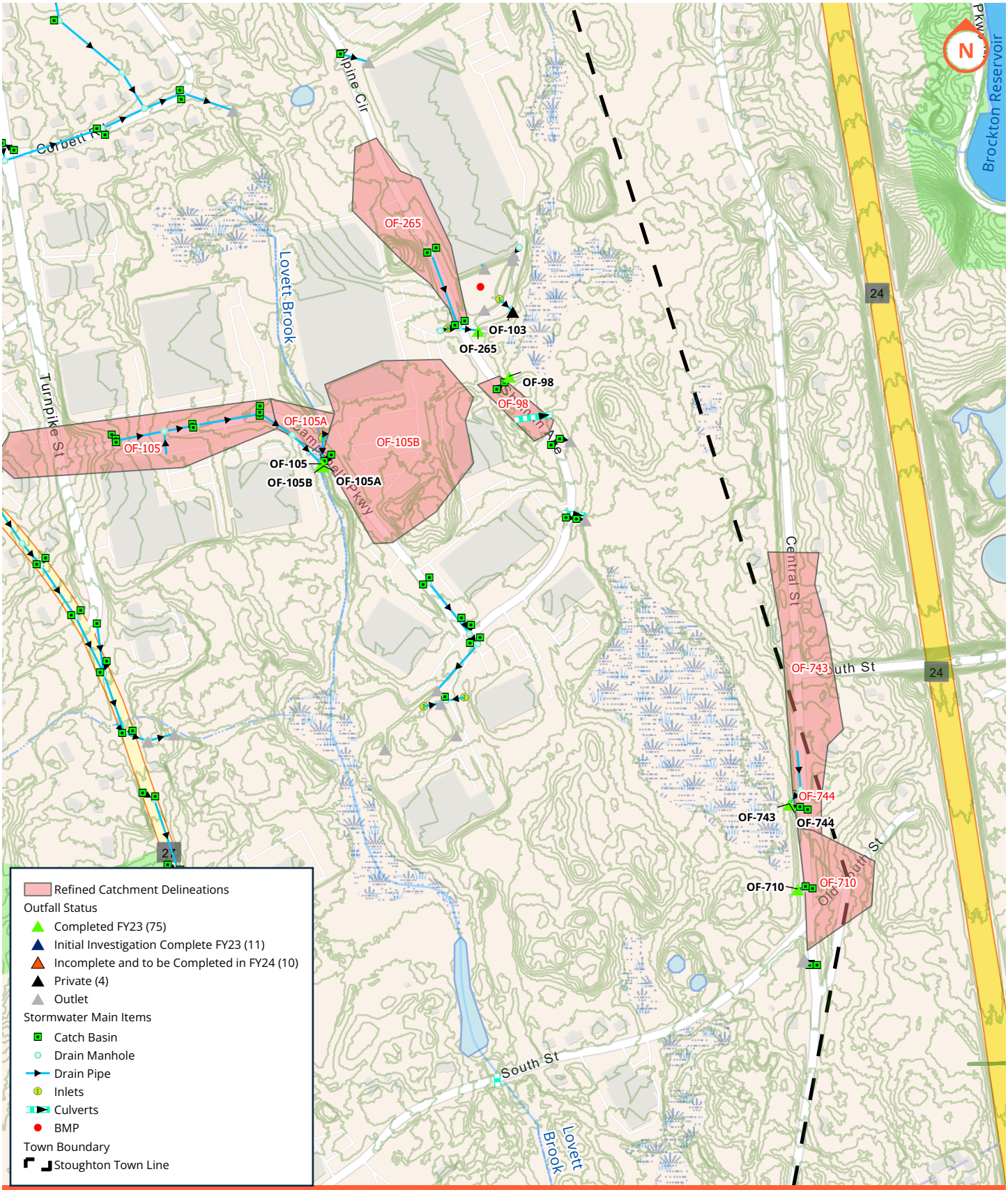
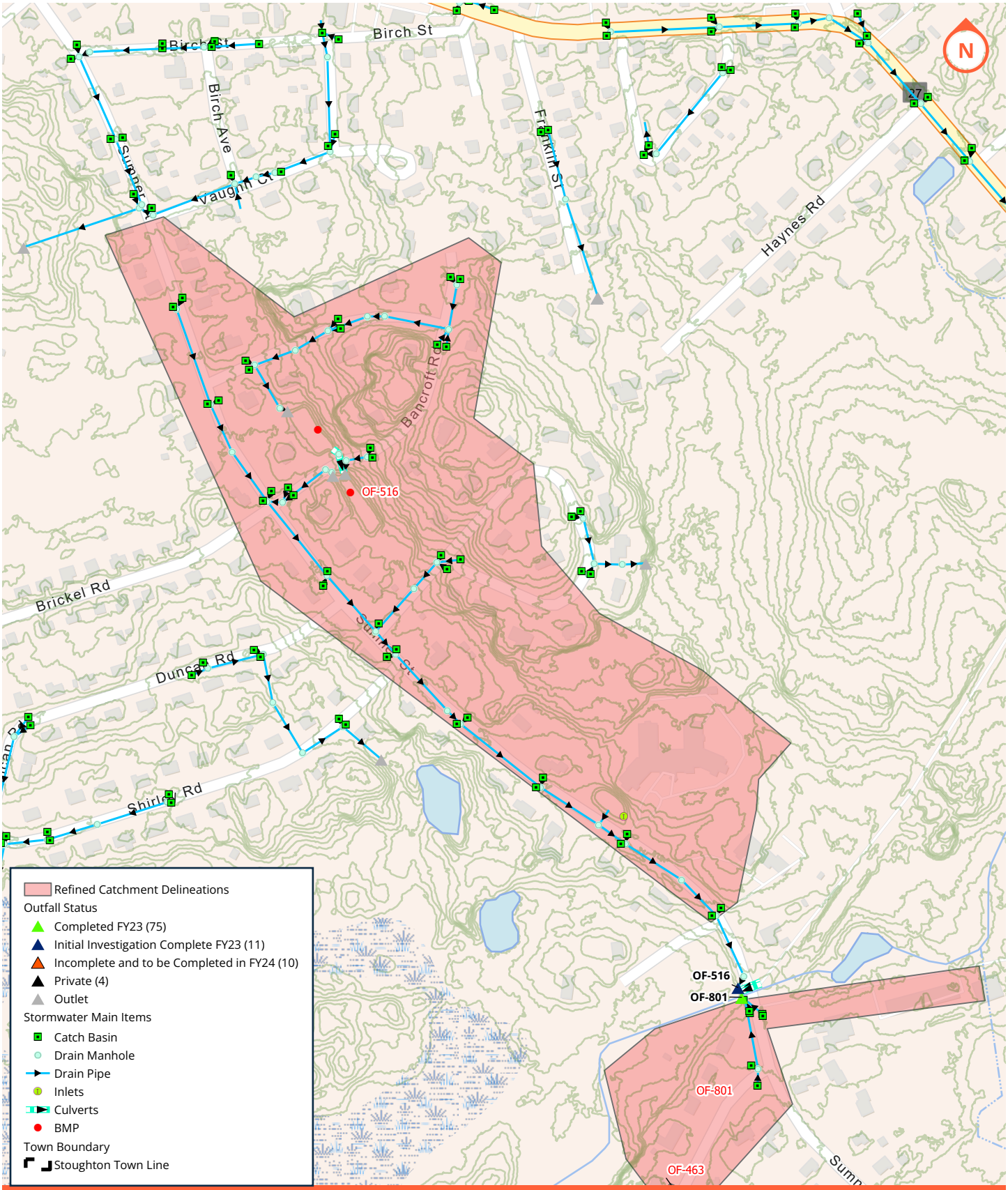


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company



ENVIRONMENTAL PARTNERS
An Apex Company

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000
Feet

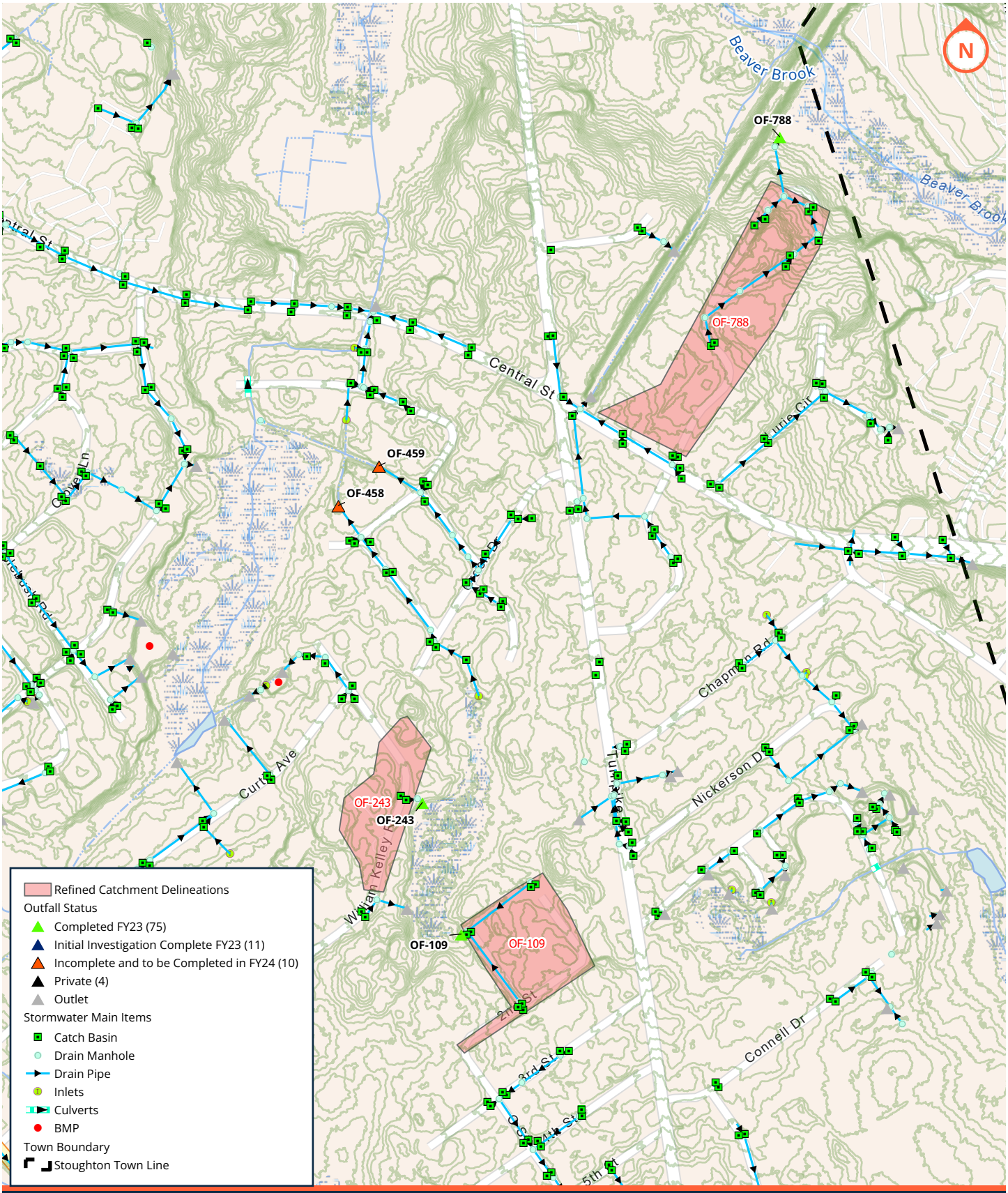


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000
Feet

ENVIRONMENTAL PARTNERS
An Apex Company

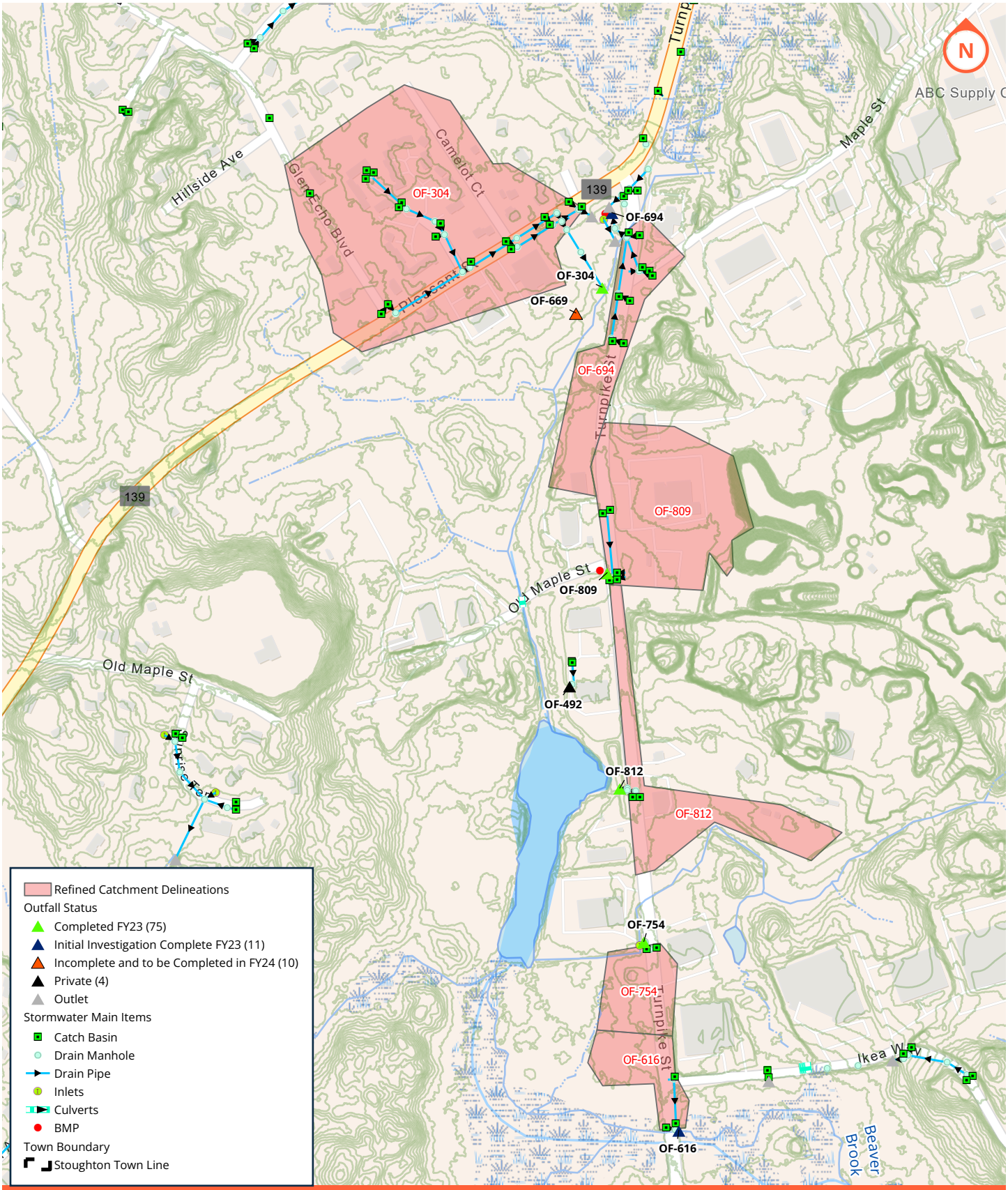


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

0 500 1,000 2,000 Feet

ENVIRONMENTAL PARTNERS
An Apex Company

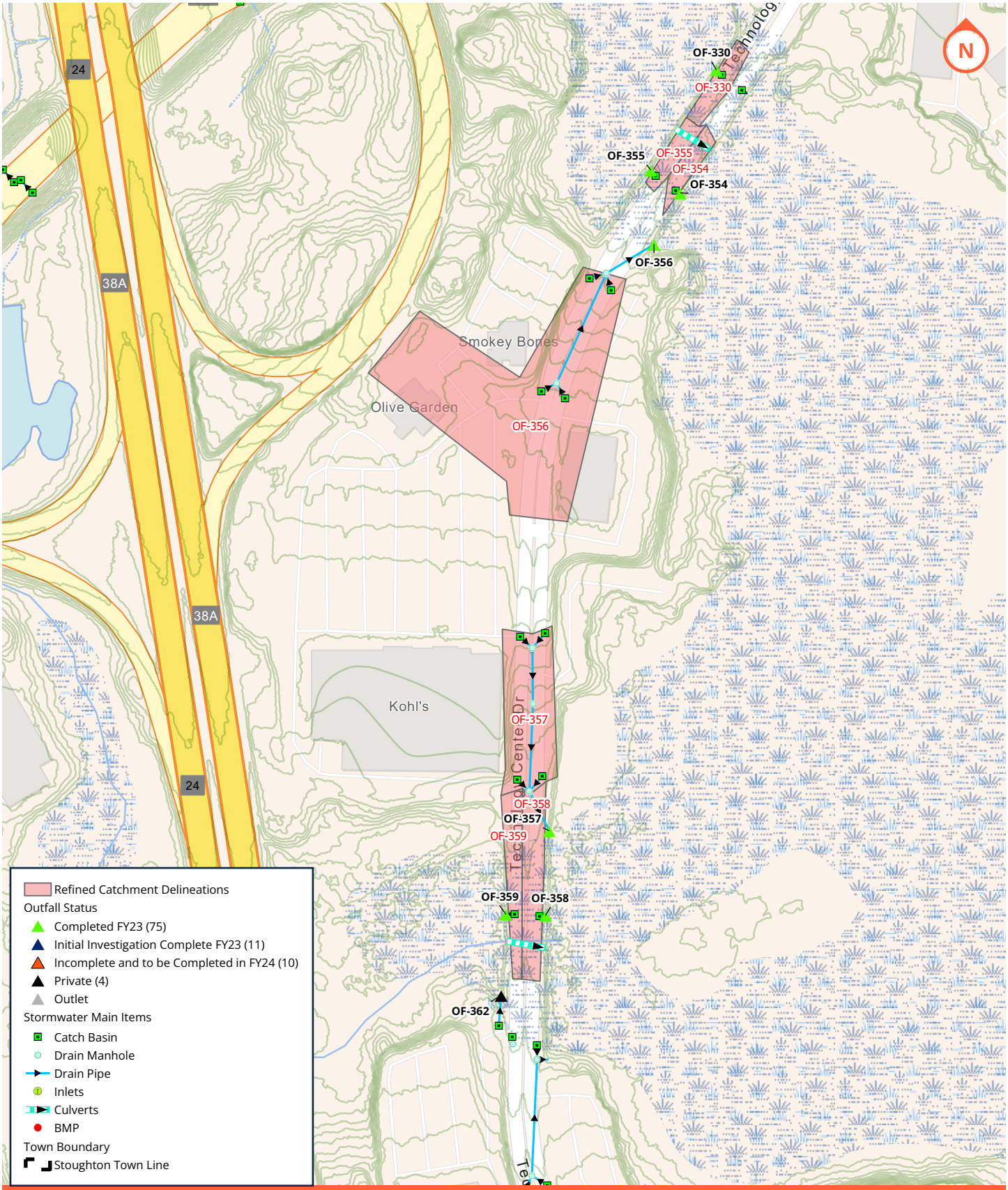


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company

0 500 1,000 2,000 Feet

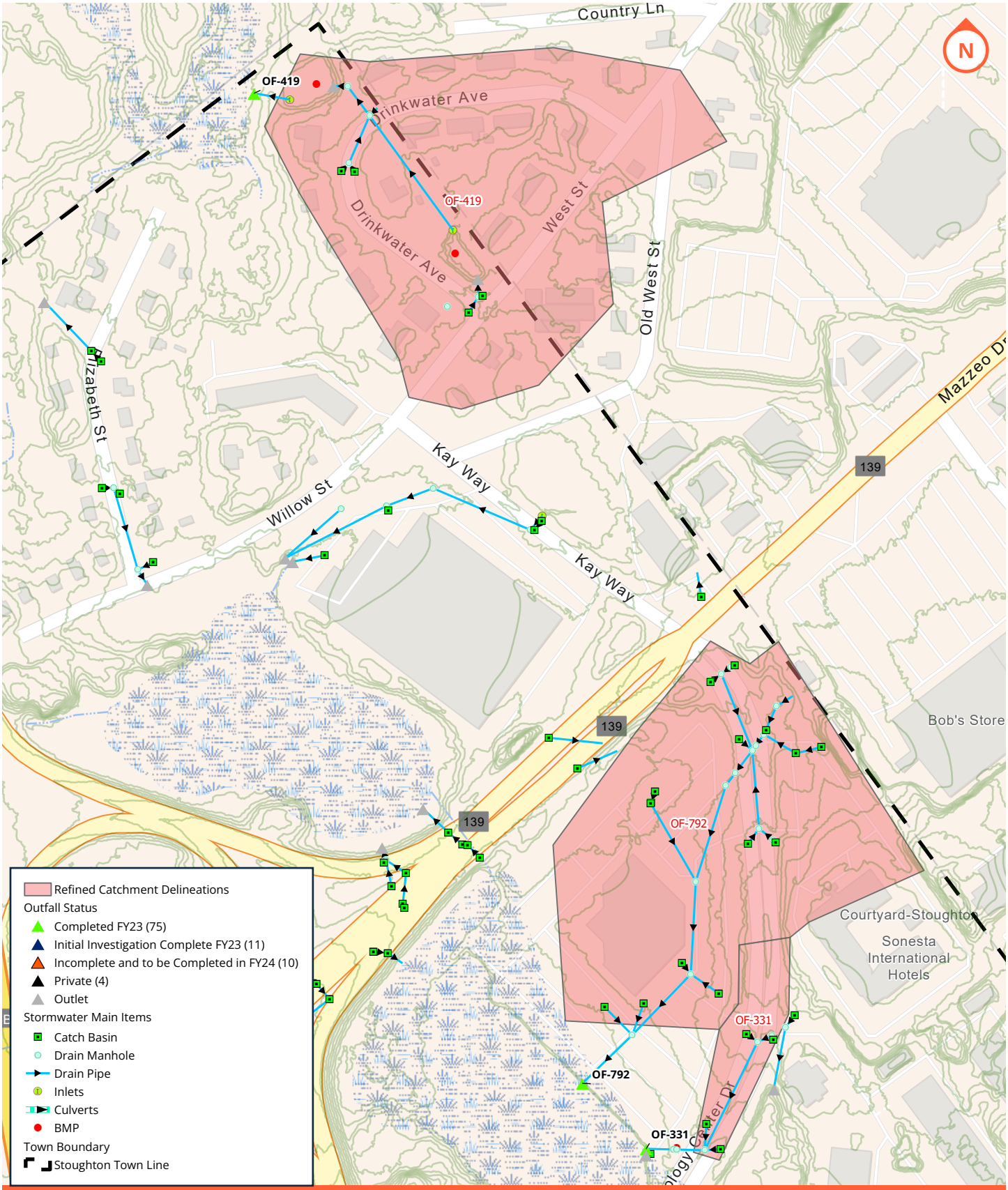
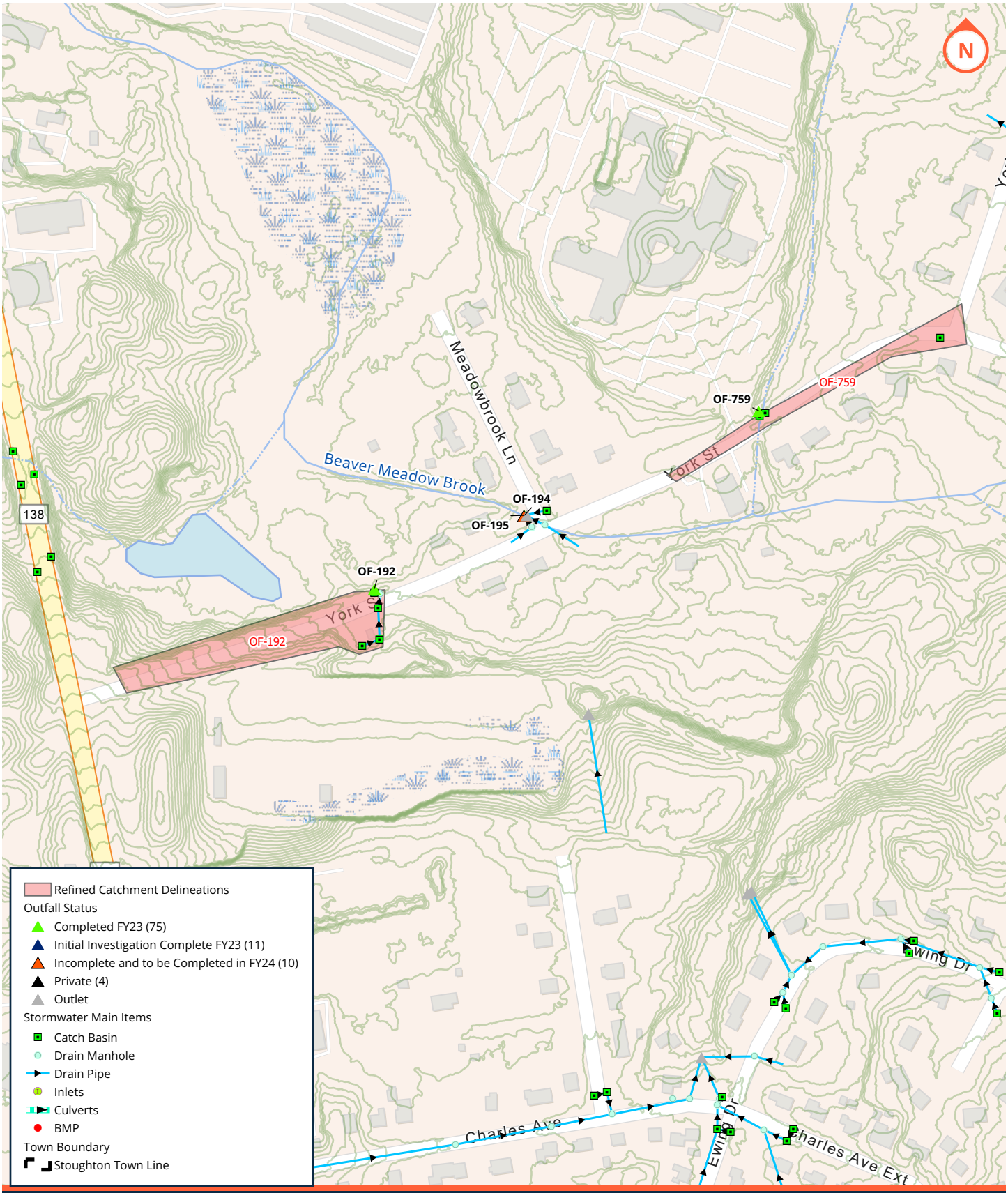


Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

ENVIRONMENTAL PARTNERS
An Apex Company



ENVIRONMENTAL PARTNERS
— An Apex Company —

Figure 2
Refined Catchment Delineations
Stoughton, MA
June 2023

TABLE 1

Catchment Investigations Locations

Table 1: Catchment Investigation Locations
Stoughton, MA

Outfall ID	Receiving Water	Approximate Street Address	Catchment Investigation Date	Flow Status	Catchment Investigation Status
OF-105	Lovett Brook	100 Campanelli Parkway	3/23/2023	Flowing	Complete
OF-105A (NEW)	Lovett Brook	100 Campanelli Parkway	3/23/2023	Dry	Complete
OF-105B (NEW)	Lovett Brook	100 Campanelli Parkway	3/23/2023	Dry	Complete
OF-109	Unnamed Wetlands to Beaver Brook 2	81 D Street	4/25/2023	Flowing	Complete
OF-112	Unnamed Tributary near Dorchester Brook	180 Chase Run	4/10/2023	Dry	Complete
OF-113	Dorchester Brook	96 Daly Drive	4/3/2023	Dry	Complete
OF-192	Beaver Meadow Brook	63 York Street	4/4/2023	Flowing	Complete
OF-194	Beaver Meadow Brook	Intersection of Meadowbrook Lane and York Street	4/4/2023	Culvert	Complete
OF-195	Beaver Meadow Brook	Intersection of Meadowbrook Lane and York Street	4/4/2023	Flowing	Incomplete
OF-204	Ames Long Pond	22 Palisades Circle	4/27/2023	Dry	Complete
OF-207	Ames Long Pond	450 Highland Street	4/11/2023	Flowing	Complete
OF-211	Ames Long Pond	524 Highland Street	3/21/2023	Flowing	Incomplete
OF-217	Unnamed Tributary to Beaver Brook 6	42 Ash Park Drive	4/25/2023	Dry	Incomplete
OF-243	Unnamed Wetlands to Beaver Brook 2	261 William Kelley Road	4/25/2023	Dry	Complete
OF-251	Unnamed Tributary to Ames Long Pond	52 Jordan Drive	4/27/2023	Dry	Complete
OF-265	Lovett Brook	100 Campanelli Parkway	3/23/2023	Dry	Complete
OF-300	Plain Street Pond	76 Grace Lane	3/30/2023	Dry	Complete
OF-304	Unnamed Tributary To Beaver Brook	951 Pleasant Street	4/4/2023	Dry	Complete
OF-322	Woods Pond	166 Kotilk Street	4/10/2023	Dry	Initial Investigation Complete
OF-323	Unnamed Tributary to Steep Hill Brook 3	98 Kotilk Street	4/27/2023	Dry	Complete
OF-330	Unnamed Wetlands to Three Swamp Brook	100 Technology Center Drive	3/30/2023	Dry	Complete
OF-331	Unnamed Wetlands to Three Swamp Brook	100 Technology Center Drive	3/30/2023	Dry	Complete
OF-342	Unnamed Tributary to Town Pond 2	10 Oliver Lane	3/30/2023	Dry	Complete
OF-350	Unnamed Tributary to Steep Hill Brook 2	24 Dino Drive	4/25/2023	Flowing	Incomplete
OF-354	Unnamed Wetlands to Three Swamp Brook	301 Technology Center Drive	4/4/2023	Dry	Complete
OF-355	Unnamed Wetlands to Three Swamp Brook	301 Technology Center Drive	4/4/2023	Dry	Complete
OF-356	Unnamed Wetlands to Three Swamp Brook	301 Technology Center Drive	4/10/2023	Dry	Complete
OF-357	Unnamed Wetlands to Three Swamp Brook	501 Technology Center Drive	3/30/2023	Dry	Complete
OF-358	Unnamed Wetlands to Three Swamp Brook	501 Technology Center Drive	4/10/2023	Dry	Complete
OF-359	Unnamed Wetlands to Three Swamp Brook	501 Technology Center Drive	4/10/2023	Dry	Complete
OF-362	Unnamed Wetlands to Three Swamp Brook	601 Technology Center Drive	3/23/2023	Private	Private
OF-378	Ames Long Pond	769 Highland Street	4/27/2023	Flowing	Complete
OF-380	Unnamed Tributary to Dorchester Brook	20 Smyth Street	3/31/2023	Dry	Initial Investigation Complete
OF-399	Briggs Pond	30 Turnstone Terrace	3/21/2023	Flowing	Complete
OF-419	Unnamed Tributary	70 Drinkwater Avenue	3/23/2023	Dry	Complete
OF-453	Unnamed Tributary to Town Pond	129 Swanson Terrace	3/30/2023	Flowing	Complete
OF-458	Unnamed Tributary to Beaver Brook 3	111 East Vanston Road	4/27/2023	Flowing	Incomplete
OF-459	Unnamed Tributary to Beaver Brook 3	71 East Vanston Road	4/27/2023	Flowing	Incomplete
OF-463	Unnamed Tributary to Dorchester Brook	143 Crockett Street	4/3/2023	Dry	Complete
OF-464	Unnamed Tributary to Dorchester Brook	35 Crockett Street	3/31/2023	Dry	Complete
OF-468	Briggs Pond	20 Turnstone Terrace	3/21/2023	Dry	Complete
OF-478	Town Pond	215 Woodpecker Road	3/21/2023	Dry	Initial Investigation Complete
OF-492	Unnamed Tributary To Beaver Brook	1074 Turnpike Street	3/23/2023	Private	Private
OF-516	Unnamed Tributary to Beaver Brook 6	3 Sumner Street	4/3/2023	Dry	Initial Investigation Complete
OF-54	Dorchester Brook	125 Atkinson Avenue	4/3/2023	Flowing	Complete

Table 1: Catchment Investigation Locations
Stoughton, MA

Outfall ID	Receiving Water	Approximate Street Address	Catchment Investigation Date	Flow Status	Catchment Investigation Status
OF-55	Dorchester Brook	107 Atkinson Avenue	4/11/2023	Flowing	Initial Investigation Complete
OF-553	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553O-1 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Incomplete
OF-553S-1 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553S-2 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553S-3 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553S-4 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553S-5 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-553S-6 (NEW)	Ames Long Pond	1782 West Street	4/27/2023	Dry	Complete
OF-56	Dorchester Brook	11 Daly Drive Extension	4/11/2023	Dry	Complete
OF-560(NEW)	Town Pond	144 West Street	4/11/2023	Dry	Complete
OF-560S(NEW)	Town Pond	144 West Street	4/11/2023	Dry	Complete
OF-57	Unnamed Tributary to Dorchester Brook	1493 Morton Street	4/11/2023	Dry	Complete
OF-580	Unnamed Tributary to Steep Hill Brook 2	92 Tremont Street	4/25/2023	Dry	Complete
OF-59	Unnamed Tributary near Woods Pond	41 Jeffery Way	3/30/2023	Dry	Complete
OF-60	Unnamed Tributary near Woods Pond	30 Jeffery Way	3/30/2023	Flowing	Complete
OF-612	Unnamed Tributary (MA73-32)	1749 Central Street	4/4/2023	Dry	Complete
OF-616	Beaver Brook	1023 Turnpike Street	4/4/2023	Dry	Initial Investigation Complete
OF-64	Unnamed Tributary to Steep Hill Brook	1810 Central Street	4/25/2023	Dry	Complete
OF-641	Unnamed Tributary to Town Pond	45 Kwedar Avenue	3/30/2023	Dry	Complete
OF-643	Coweeset Brook	18 Fitzpatrick Street	4/25/2023	Flowing	Complete
OF-65	Unnamed Tributary (MA73-32)	1810 Central Street	4/25/2023	Dry	Initial Investigation Complete
OF-653	Unnamed Tributary to Town Pond	33 Kwedar Avenue	3/30/2023	Dry	Complete
OF-669	Unnamed Tributary To Beaver Brook	951 Pleasant Street	3/23/2023	Dry	Incomplete
OF-671	Unnamed Tributary to Steep Hill Brook 2	92 Tremont Street	4/25/2023	Dry	Complete
OF-69	Plain Street Pond	23 Plain Drive	3/30/2023	Dry	Complete
OF-694	Unnamed Tributary To Beaver Brook	951 Pleasant Street	4/4/2023	Dry	Initial Investigation Complete
OF-70	Unnamed Tributary to Town Pond	32 Kwedar Avenue	3/30/2023	Culvert	Complete
OF-710	Unnamed Wetlands near Lovett Brook 2	Intersection of Central Street and Old South Street	3/23/2023	Dry	Complete
OF-723	Unnamed Pond near Woods Pond	21 Plain Street	3/30/2023	Dry	Complete
OF-735	East Branch Neponset River	358-366 Island Street	3/23/2023	Dry	Complete
OF-739	Unnamed Pond near Three Swamp Brook	104 Page Street	3/30/2023	Dry	Initial Investigation Complete
OF-742	Unnamed Tributary to Steep Hill Brook	1749 Central Street	4/11/2023	Dry	Complete
OF-743	Unnamed Wetlands near Lovett Brook 2	63 Central Street	3/23/2023	Town of Avon	Complete
OF-744	Unnamed Wetlands near Lovett Brook 2	63 Central Street	3/23/2023	Dry	Complete
OF-747	Steep Hill Brook	2050 Central Street	4/27/2023	Dry	Complete
OF-748	Steep Hill Brook	2070 Central Street	4/27/2023	Dry	Initial Investigation Complete
OF-751	Coweeset Brook	1027 Sumner Street	4/11/2023	Flowing	Complete
OF-754	Unnamed Tributary To Beaver Brook	1050 Turnpike Street	4/4/2023	Dry	Complete
OF-759	Beaver Meadow Brook	155 York Street	3/30/2023	Dry	Complete
OF-764	Dry Pond	1361 Bay Road	4/3/2023	Dry	Complete
OF-769	Town Pond	1154 Bay Road	4/3/2023	Dry	Initial Investigation Complete
OF-788	Brockton Reservoir	160 Larson Road	3/23/2023	Dry	Complete
OF-792	Cochato River	G2 Central Drive	4/27/2023	Dry	Complete
OF-801	Unnamed Tributary to Beaver Brook 6	3 Sumner Street	4/3/2023	Dry	Complete
OF-803	Unnamed Tributary	170 Eagle Rock Road	3/21/2023	Dry	Complete
OF-804	Unnamed Tributary	150 Eagle Rock Road	3/21/2023	Dry	Complete
OF-805	Unnamed Tributary	128 Eagle Rock Road	3/21/2023	Dry	Complete
OF-807	Unnamed Tributary	20 Dennison Court	4/10/2023	Flowing	Incomplete
OF-809	Beaver Brook	1140 Old Maple Street	4/4/2023	Dry	Complete
OF-812 (NEW)	Beaver Pond	1098 Turnpike Street	4/4/2023	Dry	Complete
OF-813 (NEW)	Beaver Pond	20 Maple Street	4/4/2023	Dry	Complete
OF-98	Unnamed Wetlands near Lovett Brook 1	146 Shuman Avenue	3/23/2023	Dry	Complete

TABLE 2

Stormwater Field Test Kit Results

Table 2: Stormwater Field Test Kit Results

Stoughton, MA

Outfall ID		OF-105			OF-109
Approximate Outfall Address		54-62 Campanelli Parkway		77 Campanelli Parkway	1-99 ; 2-98 O'Hare Circle
Discharge Waterbody		Lovett Brook			Unnamed Wetlands to Beaver Brook 2
Structure ID		SWMH-136-11:00 (Incoming line in the direction of 75 Campanelli Parkway)	SWMH-136-2:00 (Incoming line in the direction of 44 Campanelli Parkway)	SWMH-609 (Incoming line from Campanelli Parkway)	OF-109 (structure)
Date Sampled		3/23/2023	3/23/2023	3/23/2023	4/25/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.03**	**0.23**	**0.16**	0.00
Surfactants (mg/L)	0.25 mg/L	**1.50**	**1.50**	**1.00**	**0.25**
pH	6.5 - 8.0	6.21	6.05	6.33	6.25
Temperature (°C)	None	14.6	13.8	13.8	14.7
Specific Conductance (µS/cm)	2000 µS/cm	1,494.0	1,333.0	1,508.0	504.0

Outfall ID		OF-192	OF-207	OF-322	OF-350
Approximate Outfall Address		63 York Street	16 Overlook Road	7 McNamara Street	24 Dino Drive
Discharge Waterbody		Beaver Meadow Brook	Ames Long Pond	Woods Pond	Unnamed Tributary to Steep Hill Brook 2
Structure ID		SWMH-1832	SWMH (no asset ID) *	SWMH-309	SWMH -12-3:00 (incoming line from Morton Street)
Date Sampled		4/10/2023	4/25/2023	4/25/2023	4/25/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.19**	**0.90**	**0.08**	**0.04**
Surfactants (mg/L)	0.25 mg/L	**0.25**	**0.50**	**0.25**	**0.25**
pH	6.5 - 8.0	7.06	6.45	6.30	6.23
Temperature (°C)	None	10.2	11.4	15.2	15.5
Specific Conductance (µS/cm)	2000 µS/cm	693.0	744.0	634.0	422.0

Outfall ID		OF-378	OF-380		OF-399
Approximate Outfall Address		12 Highland Rock Drive	97 Holland Avenue	47 Holland Avenue	2399 Bay Road
Discharge Waterbody		Ames Long Pond	Unnamed Tributary to Dorchester Brook		Briggs Pond
Structure ID		OF-378 (outfall)	SWMH-291 (structure)	SWMH-349 (Incoming line in the direction of 44 Holland Avenue)	SWMH -547-3:00 (incoming line from Turnstone Terrace)
Date Sampled		3/31/2023	3/21/2023	4/4/2023	4/11/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.11**	**0.10**	0.00	**0.10**
Surfactants (mg/L)	0.25 mg/L	**0.25**	**0.25**	**2.00**	**1.00**
pH	6.5 - 8.0	6.04	6.84	7.44	6.81
Temperature (°C)	None	14.2	10.2	12.5	12.0
Specific Conductance (µS/cm)	2000 µS/cm	340.0	227.0	1,378.0	736.0

Red, bolded values exceed contaminant criteria

*: indicates new assets that were located during field investigations and do not have a Town assigned ID number

Table 2: Stormwater Field Test Kit Results

Stoughton, MA

Outfall ID		OF-453			
Approximate Outfall Address		128 Swanson Terrace			37 Farrington Street
Discharge Waterbody		Unnamed Tributary to Town Pond			
Structure ID		SMWH-203-10:00 (Incoming line from Swanson Terrace towards Farrington Street)	SMWH-203-1:00 (Incoming line from Swanson Terrace towards Dutton Road)	SMWH-203-2:00 (Incoming line from Swanson Terrace towards Dutton Road)	SWMH-267 (Incoming line from Farrington Street towards Plain Street)
Date Sampled		3/30/2023	3/30/2023	3/30/2023	3/30/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.25	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.06**	**0.20**	0.00	**0.07**
Surfactants (mg/L)	0.25 mg/L	**0.50**	**0.75**	**0.25**	**0.25**
pH	6.5 - 8.0	6.48	6.82	7.28	6.80
Temperature (°C)	None	11.3	11.9	12.2	10.6
Specific Conductance (µS/cm)	2000 µS/cm	141.1	451.0	368.0	127.8

Outfall ID		OF-458	OF-459		OF-54
Approximate Outfall Address		10 Flynn Road	4 Fraser Road		171 Atkinson Avenue
Discharge Waterbody		Unnamed Tributary to Beaver Brook 3			Dorchester Brook
Structure ID		SWMH-1721-2:00 (Incoming line from Flynn Road towards Green Drive)	SWMH-1718-2:00 (Incoming line from Green Street)	SWMH-1718-8:00 (Incoming line in the direction of 53 Green Street)	SWMH-20-10:00 (Incoming line in the direction of 72 Lelland Road)
Date Sampled		4/25/2023	4/25/2023	4/25/2023	4/3/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.07**	**0.06**	**0.06**	**0.18**
Surfactants (mg/L)	0.25 mg/L	**0.25**	**2.00**	**0.75**	**0.25**
pH	6.5 - 8.0	6.28	6.29	6.06	6.55
Temperature (°C)	None	14.6	14.3	14.2	13.2
Specific Conductance (µS/cm)	2000 µS/cm	319.0	830.0	849.0	270.0

Outfall ID		OF-54		OF-55	
Approximate Outfall Address		171 Atkinson Avenue	125 Atkinson Avenue	69 Atkinson Avenue	8 Atkinson Avenue
Discharge Waterbody		Dorchester Brook	Unnamed Tributary to Beaver Brook 3	Dorchester Brook	
Structure ID		SWMH-20-12:00 (Incoming line from Atkinson Avenue)	SWMH-23-9:00 (Incoming line from Atkinson Avenue)	SWMH-26-12:00 (Incoming line from Atkinson Avenue towards Fitzpatrick Street)	SWMH-31-12:00 (Incoming line from Atkinson Avenue towards Sumner Street)
Date Sampled		4/3/2023	4/3/2023	4/11/2023	4/11/2023
Field Test Parameter	**Threshold**				
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	0.0
Total Chlorine (mg/L)	Detectable	**0.06**	**0.04**	**0.24**	**0.15**
Surfactants (mg/L)	0.25 mg/L	**0.25**	**0.50**	**0.25**	**0.25**
pH	6.5 - 8.0	6.60	6.72	7.40	7.04
Temperature (°C)	None	12.6	11.6	12.5	13.7
Specific Conductance (µS/cm)	2000 µS/cm	406.0	425.0	98.8	95.1

Red, bolded values exceed contaminant criteria

Table 2: Stormwater Field Test Kit Results

Stoughton, MA

Outfall ID		OF-60	OF-792	OF-803	OF-807	OF-809
Approximate Outfall Address		30 Jeffrey Way	G2 Central Drive	150 Eagle Rock Road	22 Chase Run	1151 Turnpike Street
Discharge Waterbody		Unnamed Tributary near Woods Pond	Cochato River	Unnamed Tributary		
Structure ID		SWMH-307-10:00 (Incoming line from Jeffery Way towards Edward Kelleher Drive)	SWIN-2292-1:00 (Incoming line in the direction of 27 Golden Road)	SWMH-535 (structure)	SWIN-677 (structure)	SWIN-2589-3:00 Incoming line from the direction of 1101 Turnpike Street)
Date Sampled		3/30/2023	4/3/2023	4/11/2023	4/11/2023	3/30/2023
Field Test Parameter	**Threshold**					
Ammonia (mg/L)	0.5 mg/L	0.0	0.0	0.0	**6.00**	0.0
Total Chlorine (mg/L)	Detectable	**0.02**	**0.08**	**0.09**	0.00	**0.14**
Surfactants (mg/L)	0.25 mg/L	**0.50**	**0.50**	**0.25**	**0.25**	**0.75**
pH	6.5 - 8.0	7.54	6.91	6.50	-**	7.14
Temperature (°C)	None	10.8	13.5	10.2	-**	11.6
Specific Conductance (µS/cm)	2000 µS/cm	689.0	1,639.0	461.0	-**	559.0

Red, bolded values exceed contaminant criteria

**: Due to the turbidity and the amount of floatables present in the sample, pH, temperature, SPC and total chlorine could not be measured. Surfactants is an approximate estimation.

TABLE 3

SVF Assessment

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

			Required Factors								Recommended Factors		
Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	**SVF Identified**
OF-105	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-105A(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-105B(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-109	81 D Street	Unnamed Wetlands to Beaver Brook 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-112	180 Chase Run	Unnamed Tributary near Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-113	96 Daly Drive	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-192	63 York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-194	Intersection of Meadowbrook Lane and York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-195	Intersection of Meadowbrook Lane and York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-204	22 Palisades Circle	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-207	450 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-211	524 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-217	42 Ash Park Drive	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-243	261 William Kelley Road	Unnamed Wetlands to Beaver Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-251	52 Jordan Drive	Unnamed Tributary to Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-265(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-300	76 Grace Lane	Plain Street Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-304	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-322	166 Kotilk Street	Woods Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-323	98 Kotilk Street	Unnamed Tributary to Steep Hill Brook 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-330	100 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-331	100 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-342	10 Oliver Lane	Unnamed Tributary to Town Pond 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-350	24 Dino Drive	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-354	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-355	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-356	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-357	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-358	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	SVF Identified
OF-359	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-362	601 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-378	769 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-380	20 Smyth Street	Unnamed Tributary to Dorchester Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-399	30 Turnstone Terrace	Briggs Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-419	70 Drinkwater Avenue	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-453	129 Swanson Terrace	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-458	111 East Vanston Road	Unnamed Tributary to Beaver Brook 3	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-459	71 East Vanston Road	Unnamed Tributary to Beaver Brook 3	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-463	143 Crockett Street	Unnamed Tributary to Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-464	35 Crockett Street	Unnamed Tributary to Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-468	20 Turnstone Terrace	Briggs Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-478	215 Woodpecker Road	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-492	1074 Turnpike Street	Unnamed Tributary To Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-516	3 Sumner Street	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-54	125 Atkinson Avenue	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-55	107 Atkinson Avenue	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-553	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553O-1 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-1 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-2 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-3 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-4 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-5 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-6 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-56	11 Daly Drive Extension	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-560(NEW)	144 West Street	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-560S(NEW)	144 West Street	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-57	1493 Morton Street	Unnamed Tributary to Dorchester Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-580	92 Tremont Street	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-59	41 Jeffery Way	Unnamed Tributary near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-60	30 Jeffery Way	Unnamed Tributary near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-612	1749 Central Street	Unnamed Tributary (MA73-32)	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-616	1023 Turnpike Street	Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-64	1810 Central Street	Unnamed Tributary to Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-641	45 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-643	18 Fitzpatrick Street	Coweeset Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-65	1810 Central Street	Unnamed Tributary (MA73-32)	No	No	No	No	No	No	N/A	No	No	No	**NO**

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	**SVF Identified**
OF-653	33 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-669	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-671	92 Tremont Street	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-69	23 Plain Drive	Plain Street Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-694	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-70	32 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-710	Intersection of Central Street and Old South Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-723	21 Plain Street	Unnamed Pond near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-735	358-366 Island Street	East Branch Neponset River	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-739	104 Page Street	Unnamed Pond near Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-742	1749 Central Street	Unnamed Tributary to Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-743	63 Central Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-744	63 Central Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-747	2050 Central Street	Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-748	2070 Central Street	Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-751	1027 Sumner Street	Coweeset Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-754	1050 Turnpike Street	Unnamed Tributary To Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-759	155 York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-764	1361 Bay Road	Dry Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-769	1154 Bay Road	Town Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-788	160 Larson Road	Brockton Reservoir	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-792	G2 Central Drive	Cochato River	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-801	3 Sumner Street	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-803	170 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-804	150 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-805	128 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-807	20 Dennison Court	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-809	1140 Old Maple Street	Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-812 (NEW)	1098 Turnpike Street	Unnamed Tributary to Beaver Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-813 (NEW)	20 Maple Street	Unnamed Tributary to Beaver Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-98	146 Shuman Avenue	Unnamed Wetlands near Lovett Brook 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**

Presence/Absence Evaluation Criteria:

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

OPTIONAL FACTORS

10. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)
11. History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)

CATCHMENT INVESTIGATION PACKAGES

OF-463, SWMH-614

Created	2023-04-03 17:58:32 UTC by EPField 01
Updated	2023-04-03 18:03:11 UTC by EPField 01
Location	42.1103847, -71.0887436

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-614
Structure Type	Manhole
Outfall ID	OF-463
Date	2023-04-03
Time	13:58
Address	34 Ryan Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	54

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	50

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	51

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Manhole cover says SEWER
Surface Photos	

Interior Photos

OF-322, SWMH-309

Project	MVGP - 10/05 - Friday
Created	2023-04-10 16:06:15 UTC by EPField 01
Updated	2023-04-10 16:13:58 UTC by EPField 01
Location	42.1176053, -71.1160908

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-309
Structure Type	Manhole
Outfall ID	OF-322
Date	2023-04-10
Time	12:06
Address	7 McNamara Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	85

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	80

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	63
Pipe Notes	Flowing

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP

Pipe Diameter (inches)	12
Pipe Invert (inches)	58
Pipe Notes	Trickling, not enough to sample
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	11

Physical Indicators

Floatables	No
Odor	No

Pipe, 11

Sampling Location	Pipe
Pipe Clock Position	11

Field Kits

Temperature	59.4
pH	7.06
Specific Conductivity (SPC)	693
Surfactants	0.25
Chlorine	0.19
Ammonia	0
Surface Photos	

Interior Photos

OF-130, SWMH-547

Created	2023-03-21 17:06:59 UTC by EPField 01
Updated	2023-03-21 17:16:41 UTC by EPField 01
Location	42.0801152, -71.1394931

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-547
Structure Type	Manhole
Outfall ID	OF-130
Date	2023-03-21
Time	13:06
Address	2399 Bay Road Sharon, Massachusetts 02067

Structure Information

Maintenance Required	No
Manhole Invert (inches)	88

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	95

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	90

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

Pipes Submerged	Partially
Submerged Pipes	3:00 and 6:00
Flow Present	Yes
Flow Description	Trickle
Flow Source	3:00 pipe
Structure Notes	Chimney needs repair

Physical Indicators

Floatables	No
Odor	No

Structure

Sampling Location	Structure

Field Kits

Temperature	53.6
pH	6.84
Specific Conductivity (SPC)	227
Surfactants	0.25
Chlorine	0.1
Ammonia	0
Sampling Notes	Sampled upstream drain manhole SWMH-547 3:00 incoming pipe

Surface Photos

Interior Photos

Other Photos

OF-NEW , SWMH-NEW

Created	2023-04-11 19:19:57 UTC by EPField 01
Updated	2023-04-11 19:22:31 UTC by EPField 01
Location	42.1269196, -71.1304136

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-NEW
Date	2023-04-11
Time	15:19
Address	144 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	65

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	63
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-653, SWMH-278

Project	MVGP - 10/05 - Friday
Created	2023-03-30 18:03:26 UTC by EPField 01
Updated	2023-03-30 18:06:58 UTC by EPField 01
Location	42.1120121, -71.1234045

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-278
Structure Type	Manhole
Outfall ID	OF-653
Date	2023-03-30
Time	14:06
Address	32 Kwedar Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	70

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	69

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	63

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	61

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	63
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-NEW, SCUPPER-NEW

Created	2023-04-27 19:09:28 UTC by EPField 01
Updated	2023-04-27 19:20:56 UTC by EPField 01
Location	42.0861413, -71.1176761

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SCUPPER-NEW
Structure Type	Outfall
Outfall ID	OF-NEW
Date	2023-04-27
Time	15:09
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Scupper; some debris found at the end of scupper

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-54, SWMH-376

Created	2023-04-03 19:44:14 UTC by EPField 01
Updated	2023-04-03 19:48:34 UTC by EPField 01
Location	42.1007049, -71.0914447

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-376
Structure Type	Manhole
Outfall ID	OF-54
Date	2023-04-03
Time	15:44
Address	55 Dean Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	94

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	94

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	77

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	78
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-350, SWMH-12

Project	MVGP - 10/05 - Friday
Created	2023-04-25 16:33:22 UTC by EPField 01
Updated	2023-04-25 16:47:46 UTC by EPField 01
Location	42.1176654, -71.1049318

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-12
Structure Type	Manhole
Outfall ID	OF-350
Date	2023-04-25
Time	12:33
Address	24 Dino Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	All pipes

Physical Indicators

Floatables	No
Odor	No

Pipe, 3

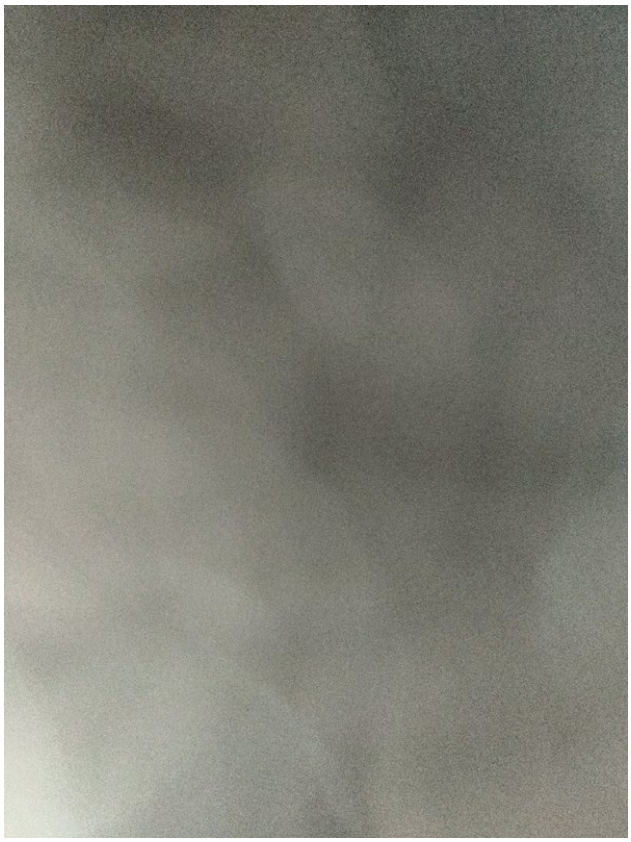
Sampling Location	Pipe
Pipe Clock Position	3

Field Kits

Temperature	59.9
pH	6.45
Specific Conductivity (SPC)	744
Surfactants	0.5
Chlorine	0.9
Ammonia	0
General Notes	Revisited catchment that was investigated last year to re-sample and found same large chlorine hit. Also, upstream manhole was dry, indicating that flow is entering system between 2 manholes. Same results as last year

Surface Photos

Interior Photos



OF-792, SWMH-2037

Created	2023-04-27 12:46:21 UTC by EPField 01
Updated	2023-04-27 12:48:31 UTC by EPField 01
Location	42.1595781, -71.0633783

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2037
Structure Type	Manhole
Outfall ID	OF-792
Date	2023-04-27
Time	08:46
Address	100 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Deposits observed, cleaning recommended.
Manhole Invert (inches)	56

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57

11

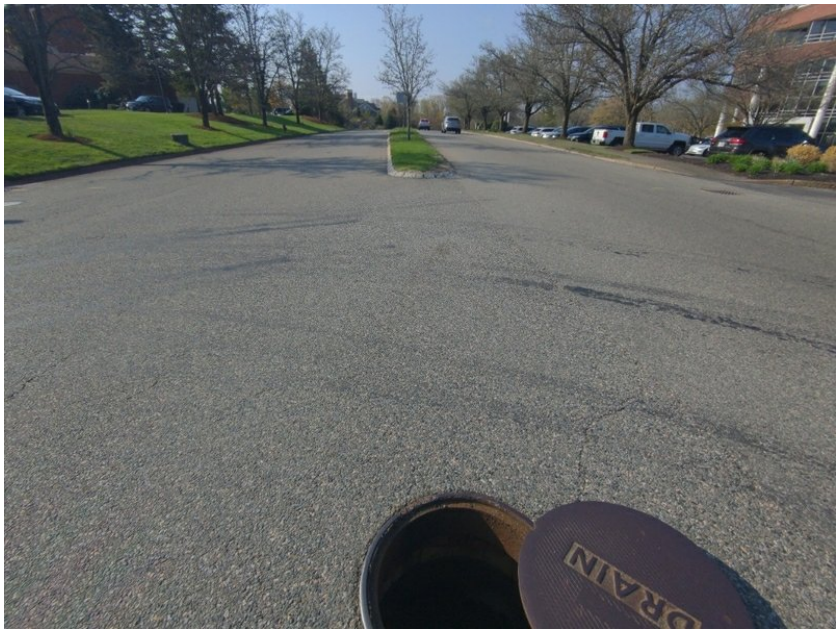
Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No

Odor	No
Surface Photos	 

Interior Photos

OF-516, SWMH-426

Created	2023-04-03 13:07:40 UTC by EPField 01
Updated	2023-04-03 13:10:40 UTC by EPField 01
Location	42.1151959, -71.0919748

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-426
Structure Type	Manhole
Outfall ID	OF-516
Date	2023-04-03
Time	09:07
Address	308 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	65

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-464, SWMH-75

Project	MVGP - 10/05 - Friday
Created	2023-03-31 19:19:56 UTC by EPField 01
Updated	2023-03-31 19:23:01 UTC by EPField 01
Location	42.107189, -71.0902173

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-75
Structure Type	Manhole
Outfall ID	OF-464
Date	2023-03-31
Time	15:20
Address	35 Crockett Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	41

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	36

7

Pipe Clock Position	7
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	35

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	35

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	36
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-380, SWMH-291

Project	MVGP - 10/05 - Friday
Created	2023-03-31 18:26:41 UTC by EPField 01
Updated	2023-03-31 18:38:31 UTC by EPField 01
Location	42.1084729, -71.1021648

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-291
Structure Type	Manhole
Outfall ID	OF-380
Date	2023-03-31
Time	14:26
Address	97 Holland Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	69

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	68

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	66

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65.5
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	3

Physical Indicators

Floatables	No
Odor	No

Pipe, 3

Sampling Location	Pipe
Pipe Clock Position	3

Field Kits

Temperature	50.4
pH	6.23
Specific Conductivity (SPC)	422
Surfactants	0.25
Chlorine	0.04
Ammonia	0
Surface Photos	

Interior Photos

OF-612, SWMH-NEW

Created	2023-04-11 18:36:49 UTC by EPField 01
Updated	2023-04-11 18:41:17 UTC by EPField 01
Location	42.1307611, -71.1289045

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-612
Date	2023-04-11
Time	14:36
Address	Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Clean sediment found at the bottom of structure
Manhole Invert (inches)	56

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	41

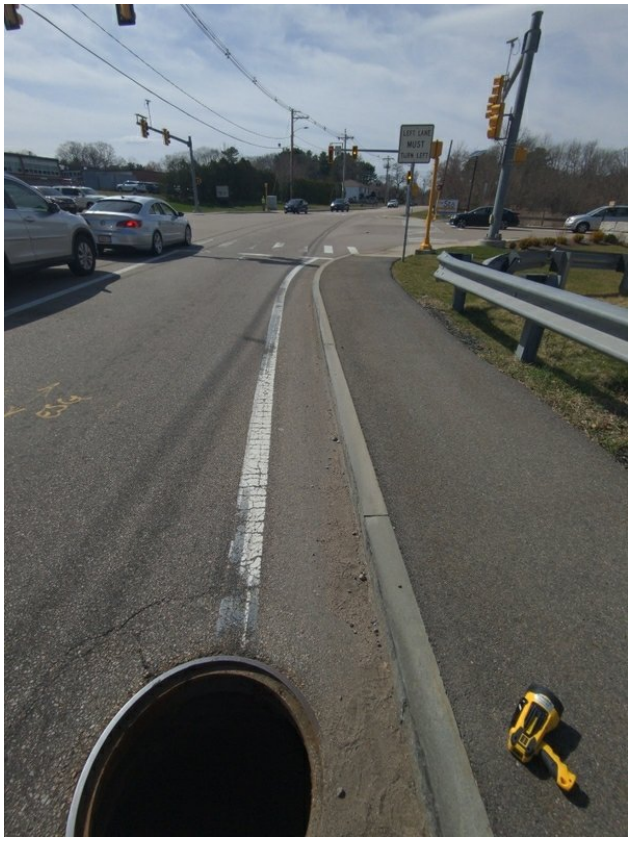
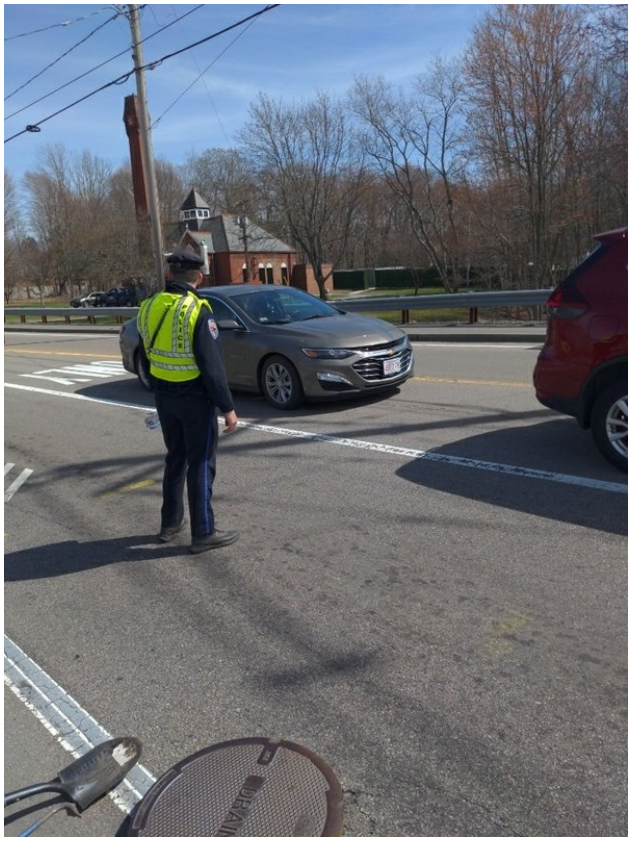
9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	39

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	10
Pipe Invert (inches)	51
Pipe Notes	Full of sediment
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure has sediment and standing water

Physical Indicators

Floatables	No
Odor	No
Surface Photos	
	

Interior Photos

Other Photos

OF-751, SWMH-758

Created	2023-04-11 16:00:44 UTC by EPField 01
Updated	2023-04-11 16:05:56 UTC by EPField 01
Location	42.0982587, -71.0803266

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-758
Structure Type	Manhole
Outfall ID	OF-751
Date	2023-04-11
Time	12:00
Address	987 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	84

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	28
Pipe Invert (inches)	84

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	65

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

Pipes Submerged	Partially
Submerged Pipes	6:00 and 12:00
Flow Present	Yes
Flow Description	Substantial
Flow Source	Stream located upstream

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

New scupper , New

Project	MVGP - 10/05 - Friday
Created	2023-04-27 19:12:26 UTC by EPField 01
Updated	2023-04-27 19:13:15 UTC by EPField 01
Location	42.0860989, -71.1181136

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	New
Structure Type	Outfall
Outfall ID	New scupper
Date	2023-04-27
Time	15:12
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	erosion
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-207, SWMH-528

Created	2023-04-11 13:02:31 UTC by EPField 01
Updated	2023-04-11 15:17:28 UTC by EPField 01
Location	42.0890203, -71.1212016

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-528
Structure Type	Manhole
Outfall ID	OF-207
Date	2023-04-11
Time	09:02
Address	468 Highland Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	76

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	79

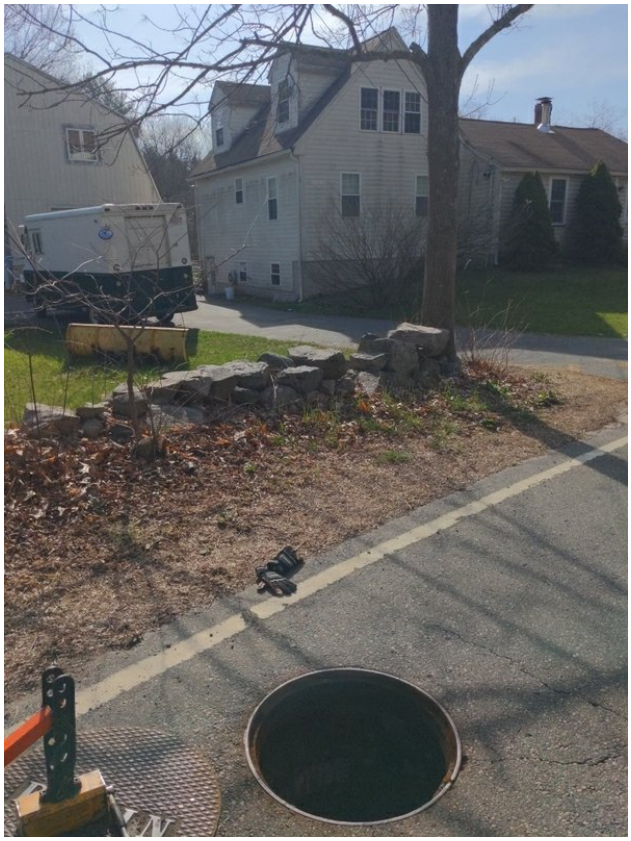
3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	79
Pipes Submerged	Partially
Submerged Pipes	6:00 and 3:00
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos



Interior Photos

OF-357, SWMH-2030

Created	2023-04-10 13:41:55 UTC by EPField 01
Updated	2023-04-10 13:46:16 UTC by EPField 01
Location	42.1531065, -71.0655836

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2030
Structure Type	Manhole
Outfall ID	OF-357
Date	2023-04-10
Time	09:41
Address	501 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	72

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	72

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	71
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

General Notes	Located on the island next to Kohl's

Surface Photos

Interior Photos

OF-769, SWMH-675

Project	MVGP - 10/05 - Friday
Created	2023-04-03 14:58:43 UTC by EPField 01
Updated	2023-04-03 15:01:51 UTC by EPField 01
Location	42.110729, -71.1335486

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-675
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	10:59
Address	1177 Bay Road Sharon, Massachusetts 02067

Structure Information

Maintenance Required	No
Manhole Invert (inches)	66

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	65

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	67

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	33

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	56

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	34

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	34
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-478, SWMH-1061

Project	MVGP - 10/05 - Friday
Created	2023-03-21 13:41:29 UTC by EPField 01
Updated	2023-03-21 13:56:39 UTC by EPField 01
Location	42.1253756, -71.1310617

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1061
Structure Type	Manhole
Outfall ID	OF-478
Date	2023-03-21
Time	09:41
Address	215 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	58

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	48

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52
Pipes Submerged	No
Flow Present	No
Structure Notes	Conical offset with debris on offset

Physical Indicators

Floatables	No

Odor	No
General Notes	Outfall is covered in vegetation. It appears to not receive a lot of flow. The 2 upstream catch basins were not visible and likely are clogged
Surface Photos	
Interior Photos	

Other Photos

OF-304, SWMH-NEW

Created	2023-04-04 14:21:46 UTC by EPField 01
Updated	2023-04-04 14:24:42 UTC by EPField 01
Location	42.1429054, -71.0770896

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-304
Date	2023-04-04
Time	10:21
Address	970 Pleasant Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	53

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	53

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	53
Pipes Submerged	Partially
Submerged Pipes	6:00 and 12:00
Flow Present	No
Structure Notes	Standing water is present

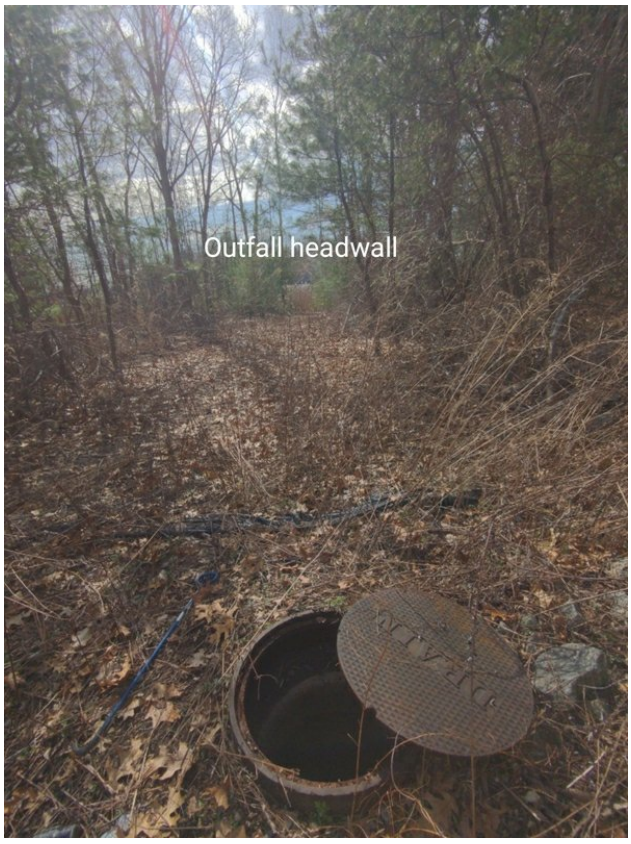
Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos



OF-195, SWMH-1492

Created	2023-04-04 12:29:03 UTC by EPField 01
Updated	2023-04-04 12:35:45 UTC by EPField 01
Location	42.1428305, -71.0996768

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1492
Structure Type	Manhole
Outfall ID	OF-195
Date	2023-04-04
Time	08:29
Address	103 York Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	60

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56
Pipes Submerged	Partially
Submerged Pipes	6:00
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
General Notes	Culvert has a flow meter. Flow was seen coming from 103 York St from a 2" PVC pipe and entering Beaver Meadow Brook.

Surface Photos

Interior Photos

Other Photos

OF-464, SWMH-67

Project	MVGP - 10/05 - Friday
Created	2023-03-31 19:32:26 UTC by EPField 01
Updated	2023-04-25 21:08:15 UTC by EPField 01
Location	42.1082727, -71.0891266

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-67
Structure Type	Manhole
Outfall ID	OF-464
Date	2023-03-31
Time	15:32
Address	76 Macarthur Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	73

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66.5

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	12
Pipe Invert (inches)	50

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	54
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

new CB on 69 Macarthur

OF-331, SWMH-2033

Created	2023-04-10 12:51:54 UTC by EPField 01
Updated	2023-04-10 13:02:30 UTC by EPField 01
Location	42.1577371, -71.0636606

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2033
Structure Type	Manhole
Outfall ID	OF-331
Date	2023-04-10
Time	08:51
Address	400 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	64

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	69

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry and full of sediment.

Physical Indicators

Floatables	No
Odor	No
General Notes	Verify with Town who owns BMP in parking lot. SWMH located in island, across the street from parking lot, appears to connect to BMP.
Surface Photos	

Interior Photos

Other Photos

SWMH-2033

OF-57, SWIN-NEW

Created	2023-04-11 20:33:22 UTC by EPField 01
Updated	2023-04-11 20:36:32 UTC by EPField 01
Location	42.1055836, -71.0994351

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-NEW
Structure Type	Catch Basin
Outfall ID	OF-57
Date	2023-04-11
Time	16:33
Address	701 Morton Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	54
Pipe Notes	Capped

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	54

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	54
Pipe Notes	Capped
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry. 11:00 and 1:00 pipes are capped.

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-NEW , SCUPPER-NEW

Created	2023-04-27 19:17:06 UTC by EPField 01
Updated	2023-04-27 19:17:59 UTC by EPField 01
Location	42.08658, -71.1174129

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SCUPPER-NEW
Structure Type	Outfall
Outfall ID	OF-NEW
Date	2023-04-27
Time	15:17
Address	1782 West Street Stoughton, Massachusetts 02072

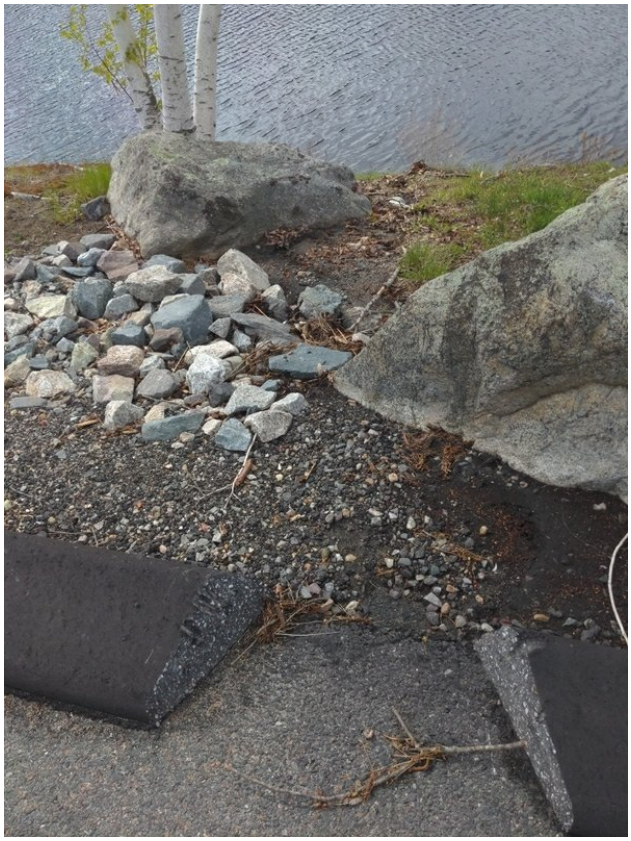
Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Scupper

Physical Indicators

Floatables	No
Odor	No

Surface Photos



Interior Photos

OF-769, SWMH-2308

Project	MVGP - 10/05 - Friday
Created	2023-04-03 14:49:24 UTC by EPField 01
Updated	2023-04-03 14:52:51 UTC by EPField 01
Location	42.1108333, -71.1334853

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2308
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	10:49
Address	6 Polillio Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	97

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	99

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	97

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	95
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-113, SWMH-29

Project	MVGP - 10/05 - Friday
Created	2023-04-03 19:58:02 UTC by EPField 01
Updated	2023-04-03 20:03:08 UTC by EPField 01
Location	42.1017598, -71.0845124

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-29
Structure Type	Manhole
Outfall ID	OF-113
Date	2023-04-03
Time	15:58
Address	96 Daly Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	50

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	42

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	41

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	41
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

New, SWMH-893

Created	2023-04-27 17:11:18 UTC by EPField 01
Updated	2023-04-27 17:55:46 UTC by EPField 01
Location	42.1339654, -71.1412936

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-893
Structure Type	Manhole
Outfall ID	New
Date	2023-04-27
Time	13:11
Address	Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	49

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	48

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	31
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

General Notes	Trench drain discharges into manhole
Surface Photos	

Interior Photos

Other Photos

OF-55, SWMH-440

Created	2023-04-11 15:04:34 UTC by EPField 01
Updated	2023-04-11 15:09:19 UTC by EPField 01
Location	42.1036741, -71.0814326

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-440
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	11:04
Address	907 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	87

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	88

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	88

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	50

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-204, SWMH-264

Created	2023-04-27 19:46:05 UTC by EPField 01
Updated	2023-04-27 19:48:57 UTC by EPField 01
Location	42.0854689, -71.1151966

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-264
Structure Type	Manhole
Outfall ID	OF-204
Date	2023-04-27
Time	15:46
Address	22 Palisades Circle Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	68

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	71

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Could not open during the FY22 catchment investigations. Successfully opened during FY23 catchment investigations.
Surface Photos	

Interior Photos

OF-NEW, SWMH-2267

Created	2023-04-04 15:20:46 UTC by EPField 01
Updated	2023-04-04 15:24:24 UTC by EPField 01
Location	42.1429008, -71.0767026

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2267
Structure Type	Manhole
Outfall ID	OF-NEW
Date	2023-04-04
Time	11:20
Address	20 Maple Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	36

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	38

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	15
Pipe Invert (inches)	36
Pipes Submerged	Partially
Submerged Pipes	6:00 and 11:00
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
General Notes	Manhole cover says SEWER

Surface Photos

SEWER

Interior Photos

Other Photos

OF-801, SWMH-65

Created	2023-04-03 13:54:50 UTC by EPField 01
Updated	2023-04-03 13:57:20 UTC by EPField 01
Location	42.1113366, -71.0881454

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-65
Structure Type	Manhole
Outfall ID	OF-801
Date	2023-04-03
Time	09:54
Address	11 Ryan Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	64

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-769, New

Project	MVGP - 10/05 - Friday
Created	2023-04-03 15:40:29 UTC by EPField 01
Updated	2023-04-03 15:43:08 UTC by EPField 01
Location	42.111432, -71.1339148

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	New
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	11:40
Address	1143 Bay Road Sharon, Massachusetts 02067

Structure Information

Maintenance Required	No
Manhole Invert (inches)	41

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	37

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	24

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	40
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-55, SWMH-741

Created	2023-04-11 16:59:46 UTC by EPField 01
Updated	2023-04-11 17:02:19 UTC by EPField 01
Location	42.1055809, -71.0820792

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-741
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	12:59
Address	741 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	55

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56
Pipes Submerged	Partially
Submerged Pipes	6:00 and 12:00
Flow Present	Yes
Flow Description	Substantial
Flow Source	Culverted stream located upstream

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-380, SWMH-292

Created	2023-03-31 18:49:17 UTC by EPField 01
Updated	2023-03-31 18:52:38 UTC by EPField 01
Location	42.1088175, -71.1023253

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-292
Structure Type	Manhole
Outfall ID	OF-380
Date	2023-03-31
Time	14:49
Address	78 Holland Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	98

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	97

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	96

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	94
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	9 and 3 incoming pipes
Structure Notes	Sampled both incoming pipes at respective upstream structures

Physical Indicators

Floatables	No
Odor	No
Surface Photos	
Interior Photos	

OF-803, SWMH-535

Project	MVGP - 10/05 - Friday
Created	2023-03-21 18:14:09 UTC by EPField 01
Updated	2023-03-21 18:46:10 UTC by EPField 01
Location	42.0769087, -71.1321659

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-535
Structure Type	Manhole
Outfall ID	OF-803
Date	2023-03-21
Time	14:14
Address	150 Eagle Rock Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	45

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	43

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	HDPE
Pipe Diameter (inches)	18
Pipe Invert (inches)	42
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	Inlet

Physical Indicators

Floatables	Yes
Floatables Type	oil sheen
Odor	No

Structure

Sampling Location	Structure

Field Kits

Temperature	50.4
pH	6.5
Specific Conductivity (SPC)	461
Surfactants	0.25
Chlorine	0.09
Ammonia	0
Surface Photos	
Interior Photos	

OF-458, SWMH-1721

Project	MVGP - 10/05 - Friday
Created	2023-04-25 19:04:28 UTC by EPField 01
Updated	2023-04-25 19:06:56 UTC by EPField 01
Location	42.1247394, -71.0772045

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1721
Structure Type	Manhole
Outfall ID	OF-458
Date	2023-04-25
Time	15:04
Address	10 Flynn Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	Yes
Flow Description	Substantial
Flow Source	12

Physical Indicators

Floatables	No
Odor	No

Pipe, 12

Sampling Location	Pipe
Pipe Clock Position	12

Field Kits

Temperature	58.3
pH	6.28
Specific Conductivity (SPC)	319
Surfactants	0.25
Chlorine	0.07
Ammonia	0
General Notes	Revisited catchment to re-sample structure with hit last year.

Surface Photos

Interior Photos

OF-356, SWMH-2031

Created	2023-04-04 13:37:20 UTC by EPField 01
Updated	2023-04-04 13:45:51 UTC by EPField 01
Location	42.1555286, -71.0655191

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2031
Structure Type	Manhole
Outfall ID	OF-356
Date	2023-04-04
Time	09:37
Address	301 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	69

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	66

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	62

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	66

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59

Pipes Submerged	No
Flow Present	No
Structure Notes	Large deposits in structure.

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-NEW , SWMH-958

Created	2023-04-27 17:44:22 UTC by EPField 01
Updated	2023-04-27 17:50:13 UTC by EPField 01
Location	42.1338364, -71.1394999

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-958
Structure Type	Manhole
Outfall ID	OF-NEW
Date	2023-04-27
Time	13:44
Address	Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	72

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	48
Pipe Invert (inches)	70

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	48
Pipe Invert (inches)	70

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	43

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	12
Pipe Invert (inches)	51

Pipes Submerged	Partially
Submerged Pipes	12:00 and 6:00
Flow Present	Yes
Flow Description	Substantial
Flow Source	Culverted stream located in the structure
Structure Notes	Outfall is located in the structure

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-769, SWMH-243

Created	2023-03-31 15:25:07 UTC by EPField 01
Updated	2023-03-31 15:28:58 UTC by EPField 01
Location	42.1107403, -71.1319225

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-243
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-03-31
Time	11:25
Address	49 Polillio Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	145

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	144

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	82

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	140

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-192, SWMH-1832

Created	2023-04-04 12:40:33 UTC by EPField 01
Updated	2023-04-04 13:04:52 UTC by EPField 01
Location	42.1424223, -71.1011805

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1832
Structure Type	Manhole
Outfall ID	OF-192
Date	2023-04-04
Time	08:40
Address	63 York Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning is recommended due to severe debris build up
Manhole Invert (inches)	44

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	56

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	43

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	44
Pipes Submerged	Partially
Submerged Pipes	6:00 and 2:00
Flow Present	Yes
Flow Description	Moderate
Flow Source	2:00

Physical Indicators

Floatables	No
Odor	No

Pipe, 2

Sampling Location	Pipe
Pipe Clock Position	2

Field Kits

Temperature	50.4
pH	7.44
Specific Conductivity (SPC)	1378
Surfactants	2
Chlorine	0
Ammonia	0
General Notes	Outfall is located within 100' of a wetland. To be considered as a new MS4 outfall. Outlets are located behind the pump station and are directly flowing into the catch basins and catchment.

Surface Photos

Interior Photos

Other Photos

OF-192

OF-105, SWMH-609

Created	2023-03-23 17:41:13 UTC by EPField 01
Updated	2023-03-23 17:55:35 UTC by EPField 01
Location	42.11193328460672, -71.06823415111401

Background Data

Client	Town of Stoughton
EP Representatives	Mike Franck, Annie Tucker
Structure ID	SWMH-609
Structure Type	Manhole
Outfall ID	OF-105
Date	2023-03-23
Time	13:41
Address	77 Campanelli Pkwy Stoughton, MA 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	100

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	98

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	95.5
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	6

Physical Indicators

Floatables	No
Odor	No

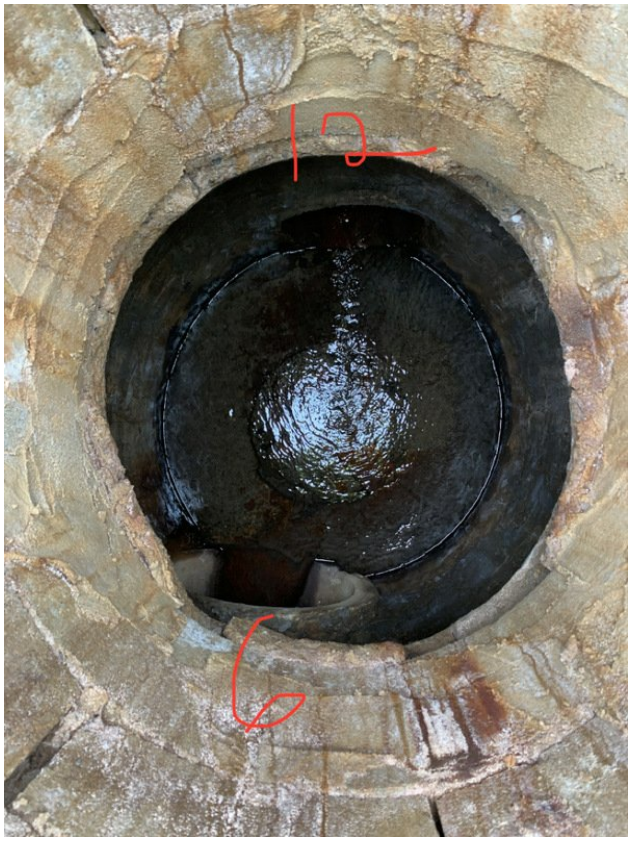
Pipe, 12

Sampling Location	Pipe
Pipe Clock Position	12

Field Kits

Temperature	56.8
pH	6.33
Specific Conductivity (SPC)	1508
Surfactants	1
Chlorine	0.16
Ammonia	0
Surface Photos	

Interior Photos



OF-NEW, SCUPPER-NEW

Created	2023-04-27 19:11:37 UTC by EPField 01
Updated	2023-04-27 19:21:53 UTC by EPField 01
Location	42.0860328, -71.1180976

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SCUPPER-NEW
Structure Type	Outfall
Outfall ID	OF-NEW
Date	2023-04-27
Time	15:11
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Scupper

Physical Indicators

Floatables	No
Odor	No
General Notes	Some vegetation located at the end of scupper

Surface Photos

Interior Photos

OUTLET-NEW , OUTLET-NEW

Created	2023-04-27 19:23:55 UTC by EPField 01
Updated	2023-04-27 19:26:23 UTC by EPField 01
Location	42.0861861, -71.1175806

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	OUTLET-NEW
Structure Type	Outlet
Outfall ID	OUTLET-NEW
Date	2023-04-27
Time	15:23
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	18
Pipe Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure looks relatively new but does not show any signs of recent flow. Vegetation growth is observed in the pipe

Physical Indicators

Floatables	No
Odor	No
General Notes	Could not locate any upstream structures or inlet draining into outlet.

Surface Photos

Interior Photos

OF-54, SWMH-20

Project	MVGP - 10/05 - Friday
Created	2023-04-03 18:59:42 UTC by EPField 01
Updated	2023-04-03 19:20:20 UTC by EPField 01
Location	42.1028242, -71.0878071

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-20
Structure Type	Manhole
Outfall ID	OF-54
Date	2023-04-03
Time	14:59
Address	171 Atkinson Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	84

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	85

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	83

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	10
Pipe Invert (inches)	75

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	82
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	10, 12

Physical Indicators

Floatables	No
Odor	No

Pipe, 10

Sampling Location	Pipe
Pipe Clock Position	10

Field Kits

Temperature	55.8
pH	6.55
Specific Conductivity (SPC)	270
Surfactants	0.25
Chlorine	0.18
Ammonia	0

Pipe, 12

Sampling Location	Pipe
Pipe Clock Position	12

Field Kits

Temperature	54.7
pH	6.6
Specific Conductivity (SPC)	406
Surfactants	0.25
Chlorine	0.06
Ammonia	0

Surface Photos

Interior Photos

OF-769, New

Project	MVGP - 10/05 - Friday
Created	2023-04-03 15:03:27 UTC by EPField 01
Updated	2023-04-03 15:06:15 UTC by EPField 01
Location	42.1107482, -71.1335827

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	New
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	11:03
Address	1177 Bay Road Sharon, Massachusetts 02067

Structure Information

Maintenance Required	No
Manhole Invert (inches)	33

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	38

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	35
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-65, SWMH-1234

Created	2023-04-25 13:19:35 UTC by EPField 01
Updated	2023-04-27 15:24:48 UTC by EPField 01
Location	42.1306983, -71.1312456

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1234
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-25
Time	09:19
Address	1818 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	129

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	129
Pipe Notes	Outlet is filled with leaves

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	128

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	105

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	8

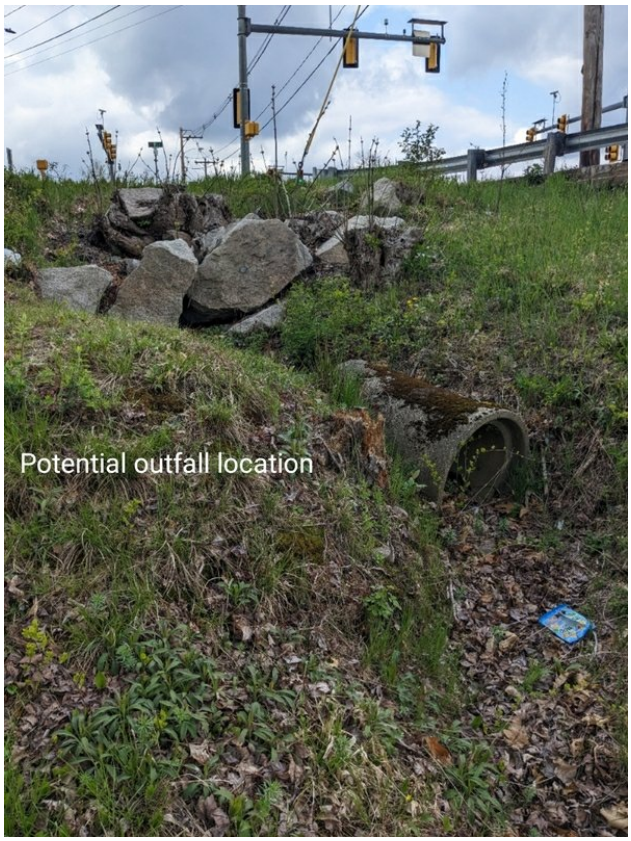
Pipe Invert (inches)	52
Pipes Submerged	No
Flow Present	No
Structure Notes	6:00 is filled with leaves

Physical Indicators

Floatables	No
Odor	No
General Notes	Confirm with Town the connectivity of cleanout located upstream of manhole. The cleanout is in line with the 9:00 pipe found in SWMH-1234.
Surface Photos	

Interior Photos

Other Photos


Potential outfall location

OF-739, SWMH-2009

Created	2023-04-27 13:28:58 UTC by EPField 01
Updated	2023-04-27 13:40:30 UTC by EPField 01
Location	42.1434405, -71.0652876

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2009
Structure Type	Manhole
Outfall ID	OF-739
Date	2023-04-27
Time	09:28
Address	104 Page Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning. Floatables observed
Manhole Invert (inches)	64

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	62
Pipe Notes	Sediment at the bottom of the pipe

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	42

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	60
Pipe Notes	Sediment at the bottom of the pipe
Pipes Submerged	Fully
Flow Present	No
Structure Notes	12:00 and 6:00 pipes are fully submerged. Standing water is present

Physical Indicators

Floatables	Yes
Floatables Type	Trash
Floatables Note	Trash should be removed. Possibly coming from catch basin located upstream. 12:00 incoming pipe is mapped but does not have an asset connected to it. Verify connectivity with Town if SWIN-3195 connects to manhole and if it is the 12:00 incoming connection. Could not locate 9:00 connection that is mapped on GIS.
Odor	No
Surface Photos	

Interior Photos

OF-109, OF-109

Project	MVGP - 10/05 - Friday
Created	2023-04-25 18:36:18 UTC by EPField 01
Updated	2023-04-25 18:39:55 UTC by EPField 01
Location	42.1209039, -71.0764712

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	OF-109
Structure Type	Outfall
Outfall ID	OF-109
Date	2023-04-25
Time	14:36
Address	1-99 ; 2-98 O'Hare Circle Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	O'Hare Circle

Physical Indicators

Floatables	No
Odor	No

Structure

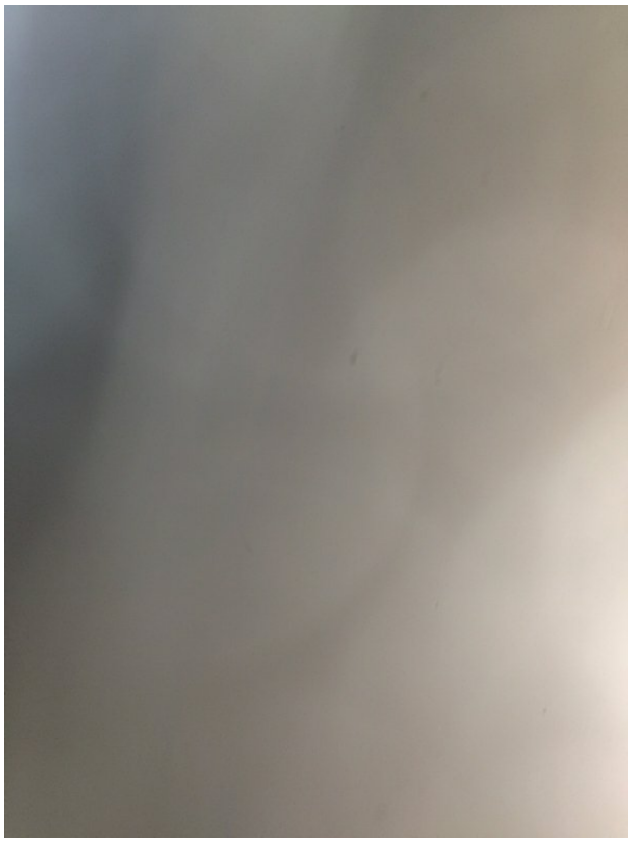
Sampling Location	Structure

Field Kits

Temperature	58.5
pH	6.25
Specific Conductivity (SPC)	504
Surfactants	0.25
Chlorine	0
Ammonia	0
General Notes	Unable to sample at upstream structure because MH is mostly covered by dirt and roots. EP opened structure enough to verify connectivity and determine that flow is coming from O'Hare Circle. Unable to locate MH at end of O'Hare Circle.

Surface Photos

Interior Photos



OF-459, SWMH-1718

Project	MVGP - 10/05 - Friday
Created	2023-04-25 19:11:34 UTC by EPField 01
Updated	2023-04-27 13:28:37 UTC by EPField 01
Location	42.1255112, -71.0763449

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1718
Structure Type	Manhole
Outfall ID	OF-459
Date	2023-04-25
Time	15:11
Address	4 Fraser Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	8, 2

Physical Indicators

Floatables	No
Odor	No

Pipe, 2

Sampling Location	Pipe
Pipe Clock Position	2

Field Kits

Temperature	57.7
pH	6.29
Specific Conductivity (SPC)	830
Surfactants	2
Chlorine	0.06
Ammonia	0

Pipe, 8

Sampling Location	Pipe
Pipe Clock Position	8

Field Kits

Temperature	576

pH	6.06
Specific Conductivity (SPC)	849
Surfactants	0.75
Chlorine	0.06
Ammonia	0
General Notes	Resampled structure that had hit last year
Surface Photos	

Interior Photos

OF-769, SWMH-678

Created	2023-03-31 14:42:31 UTC by EPField 01
Updated	2023-03-31 14:48:53 UTC by EPField 01
Location	42.1089142, -71.1302354

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-678
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-03-31
Time	10:42
Address	64 Pinetree Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	43

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	44

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	43
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

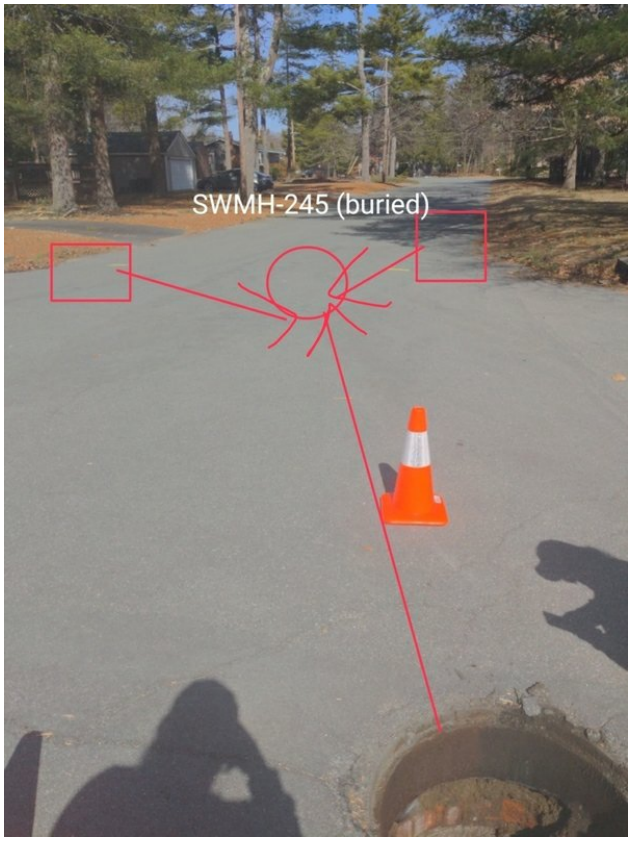
Physical Indicators

Floatables	No
Odor	No
General Notes	SWMH-245 is buried and is downstream of SWMH-678. Mapping has been updated to reflect the correct pipe connectivity.

Surface Photos

Interior Photos

Other Photos



OF-468, SWMH-548

Project	MVGP - 10/05 - Friday
Created	2023-03-21 15:29:08 UTC by EPField 01
Updated	2023-03-21 15:33:25 UTC by EPField 01
Location	42.0797391, -71.1393126

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-548
Structure Type	Manhole
Outfall ID	OF-468
Date	2023-03-21
Time	11:29
Address	20 Turnstone Terrace Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	54.5

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-54, SWMH-23

Created	2023-04-03 18:28:53 UTC by EPField 01
Updated	2023-04-03 18:39:22 UTC by EPField 01
Location	42.1032717, -71.085924

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-23
Structure Type	Manhole
Outfall ID	OF-54
Date	2023-04-03
Time	14:28
Address	125 Atkinson Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	92

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	36
Pipe Invert (inches)	93

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	92
Pipes Submerged	Partially
Submerged Pipes	6:00 and 9:00
Flow Present	Yes
Flow Description	Moderate
Flow Source	9:00 incoming pipe

Physical Indicators

Floatables	No
Odor	No

Pipe, 9

Sampling Location	Pipe
Pipe Clock Position	9

Field Kits

Temperature	52.9
pH	6.72
Specific Conductivity (SPC)	425
Surfactants	0.5
Chlorine	0.04
Ammonia	0
Surface Photos	

Interior Photos

Other Photos

OF-769, SWMH-2312

Project	MVGP - 10/05 - Friday
Created	2023-04-03 16:14:10 UTC by EPField 01
Updated	2023-04-03 16:16:31 UTC by EPField 01
Location	42.1117324, -71.1340042

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2312
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	12:14
Address	1154 Bay Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	109

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	113

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	114

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	109
Pipe Notes	INTERCONNECTION
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No

Odor	No
Surface Photos	

Interior Photos

OF-764, SWMH-693

Project	MVGP - 10/05 - Friday
Created	2023-04-03 14:14:15 UTC by EPField 01
Updated	2023-04-03 14:26:35 UTC by EPField 01
Location	42.1065123, -71.1319194

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-693
Structure Type	Catch Basin
Outfall ID	OF-764
Date	2023-04-03
Time	10:14
Address	1347 Bay Road Sharon, Massachusetts 02067

Structure Information

Maintenance Required	No
Manhole Invert (inches)	63

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	36

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	4
Pipe Invert (inches)	31
Pipe Notes	BLOCKED OFF

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	4
Pipe Invert (inches)	30
Pipe Notes	BLOCKED OFF
Pipes Submerged	Fully
Flow Present	No
Structure Notes	Unable to locate and verify outlet

Physical Indicators

Floatables	No
Odor	No
General Notes	GIS identifies structure as MH but it's a catch basin
Surface Photos	
Interior Photos	

OF-742, SWIN-1799

Created	2023-04-11 18:44:45 UTC by EPField 01
Updated	2023-04-11 18:51:49 UTC by EPField 01
Location	42.1306431, -71.1293344

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-1799
Structure Type	Catch Basin
Outfall ID	OF-742
Date	2023-04-11
Time	14:44
Address	Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning of debris seen at the bottom of structure
Manhole Invert (inches)	70

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	56
Pipe Notes	Capped
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-671, SWMH-516

Created	2023-04-25 14:45:19 UTC by EPField 01
Updated	2023-04-25 14:47:45 UTC by EPField 01
Location	42.1164133, -71.1073321

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-516
Structure Type	Manhole
Outfall ID	OF-671
Date	2023-04-25
Time	10:45
Address	235 Morton Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	69

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	71

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	69

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	69

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

Pipes Submerged	No
Flow Present	No
Structure Notes	3:00 incoming pipe does not exist

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-322, SWMH-326

Created	2023-04-10 16:46:05 UTC by EPField 01
Updated	2023-04-10 17:14:32 UTC by EPField 01
Location	42.1174873, -71.1195194

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-326
Structure Type	Manhole
Outfall ID	OF-322
Date	2023-04-10
Time	12:46
Address	226 Poskus Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	46

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	47

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	46

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	46
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	1:00
Structure Notes	Trickling; not enough to sample

Physical Indicators

Floatables	No
Odor	No
General Notes	Could not locate the source of the trickling flow from the upstream catch basin. Recommend replacing frame and cover. Severe rust is observed.
Surface Photos	

Interior Photos

OF-453, New

Project	MVGP - 10/05 - Friday
Created	2023-03-30 15:53:09 UTC by EPField 01
Updated	2023-03-30 15:56:44 UTC by EPField 01
Location	42.112206, -71.1190734

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	New
Structure Type	Manhole
Outfall ID	OF-453
Date	2023-03-30
Time	11:53
Address	116 Swanson Terrace Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	66

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	11

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-792, SWMH-NEW

Created	2023-04-27 12:34:33 UTC by EPField 01
Updated	2023-04-27 12:43:09 UTC by EPField 01
Location	42.1604554, -71.0635531

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-792
Date	2023-04-27
Time	08:34
Address	G2 Central Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	67

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45
Pipes Submerged	No
Flow Present	No
Structure Notes	Manhole located in island. Recommend GPSing

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-671, SWMH-513

Created	2023-04-25 14:52:14 UTC by EPField 01
Updated	2023-04-25 14:56:12 UTC by EPField 01
Location	42.1176367, -71.1071741

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-513
Structure Type	Manhole
Outfall ID	OF-671
Date	2023-04-25
Time	10:52
Address	235 Morton Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	70

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	71

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	70

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	69

Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-769, SWMH-246

Project	MVGP - 10/05 - Friday
Created	2023-04-03 14:39:17 UTC by EPField 01
Updated	2023-04-03 14:42:41 UTC by EPField 01
Location	42.1108067, -71.1334078

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-246
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	10:39
Address	6 Polillio Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	57

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	60

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	43

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	53

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	55

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	57
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-694, SWMH-1798

Created	2023-04-04 16:58:28 UTC by EPField 01
Updated	2023-04-04 17:01:02 UTC by EPField 01
Location	42.1418699, -71.0766031

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1798
Structure Type	Manhole
Outfall ID	OF-694
Date	2023-04-04
Time	12:58
Address	1196 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	54

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	53

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	52
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-65, SWMH-NEW

Created	2023-04-27 15:10:35 UTC by EPField 01
Updated	2023-04-27 15:20:40 UTC by EPField 01
Location	42.1300581, -71.1302557

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-27
Time	11:10
Address	26 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning; deposits observed
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	50
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

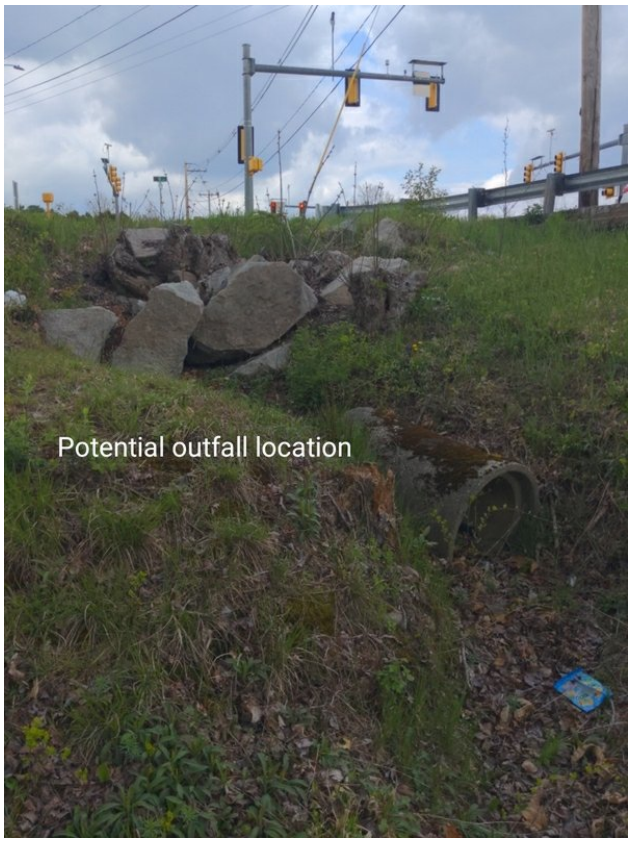
Physical Indicators

Floatables	No

Odor	No
Surface Photos	

Interior Photos

Other Photos



OF-342, SWMH-735

Project	MVGP - 10/05 - Friday
Created	2023-03-30 19:25:49 UTC by EPField 01
Updated	2023-03-30 19:38:55 UTC by EPField 01
Location	42.1052027, -71.1199484

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-735
Structure Type	Manhole
Outfall ID	OF-342
Date	2023-03-30
Time	15:25
Address	10 Oliver Lane Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	104

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	106

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	106
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	Unknown

Physical Indicators

Floatables	No
Odor	No
General Notes	Stormceptor
Surface Photos	
Interior Photos	

Other Photos

Outfall

OF-807, SWIN-677

Created	2023-04-25 17:14:59 UTC by EPField 01
Updated	2023-04-25 17:24:25 UTC by EPField 01
Location	42.1037984, -71.080185

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-677
Structure Type	Catch Basin
Outfall ID	OF-807
Date	2023-04-25
Time	13:14
Address	14 Chase Run Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Grease and possible paint has been dumped into structure. Cleaning is recommended.
Manhole Invert (inches)	0

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipe Notes	Pipe was submerged in flow
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is full of standing water. Due to significant amount of floatables, depth of structure could not be determined.

Physical Indicators

Floatables	Yes
Floatables Type	Grease
Floatables Note	Grease and possibly paint present
Odor	Yes
Odor Type	Rancid/Sour, Petroleum/Gas

Structure

Sampling Location	Structure

Field Kits

Temperature	0
pH	0
Specific Conductivity (SPC)	0

Surfactants	0.5
Chlorine	0
Ammonia	6
Sampling Notes	Due to the turbidity and amount of floatables present in water, pH, temperature, SPC and Chlorine could not be measured. Surfactants is an approximate estimation.
Surface Photos	
Interior Photos	

OF-207, SWMH-new

Project	MVGP - 10/05 - Friday
Created	2023-04-11 12:39:16 UTC by EPField 01
Updated	2023-04-11 12:51:11 UTC by EPField 01
Location	42.0893939, -71.1221191

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-new
Structure Type	Manhole
Outfall ID	OF-207
Date	2023-04-11
Time	08:39
Address	16 Overlook Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	61

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	60

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	59
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	12

Physical Indicators

Floatables	No
Odor	No

Structure

Sampling Location	Structure

Field Kits

Temperature	52.5
pH	6.81
Specific Conductivity (SPC)	736
Surfactants	1
Chlorine	0.1
Ammonia	0
Surface Photos	

Interior Photos

OF-105, SWMH-136

Created	2023-03-23 18:27:16 UTC by EPField 01
Updated	2023-03-23 18:51:07 UTC by EPField 01
Location	42.1121640865346, -71.06875205915642

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Mike Franck
Structure ID	SWMH-136
Structure Type	Manhole
Outfall ID	OF-105
Date	2023-03-23
Time	14:27
Address	54–62 Campanelli Pkwy Stoughton, MA 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	64

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	58

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	34

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	59

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	2, 11

Physical Indicators

Floatables	No
Odor	No

Pipe, 11

Sampling Location	Pipe
Pipe Clock Position	11

Field Kits

Temperature	58.3
pH	6.21
Specific Conductivity (SPC)	1494
Surfactants	1.5
Chlorine	0.03
Ammonia	0

Pipe, 2

Sampling Location	Pipe
Pipe Clock Position	2

Field Kits

Temperature	56.8
pH	6.05
Specific Conductivity (SPC)	1333
Surfactants	1.5
Chlorine	0.23
Ammonia	0

Surface Photos

Interior Photos

OF-419, SWMH-1421

Created	2023-03-23 13:13:07 UTC by EPField 01
Updated	2023-03-23 13:20:07 UTC by EPField 01
Location	42.16368085512329, -71.06615322742594

Background Data

Client	Town of Stoughton
EP Representatives	Mike Franck, Annie Tucker
Structure ID	SWMH-1421
Structure Type	Manhole
Outfall ID	OF-419
Date	2023-03-23
Time	09:13
Address	19 Drinkwater Ave Randolph, MA 02368

Structure Information

Maintenance Required	No
Manhole Invert (inches)	82

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	83

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	82.5
Pipe Notes	Interconnection with Randolph

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	75

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	78
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-378, OF-378

Project	MVGP - 10/05 - Friday
Created	2023-04-27 18:58:45 UTC by EPField 01
Updated	2023-04-27 19:04:26 UTC by EPField 01
Location	42.08380224589104, -71.1184093

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	OF-378
Structure Type	Outfall
Outfall ID	OF-378
Date	2023-04-27
Time	14:58
Address	12 Highland Rock Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	remove silt sock if applicable
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	Inlet/culvert

Physical Indicators

Floatables	No
Odor	No

Structure

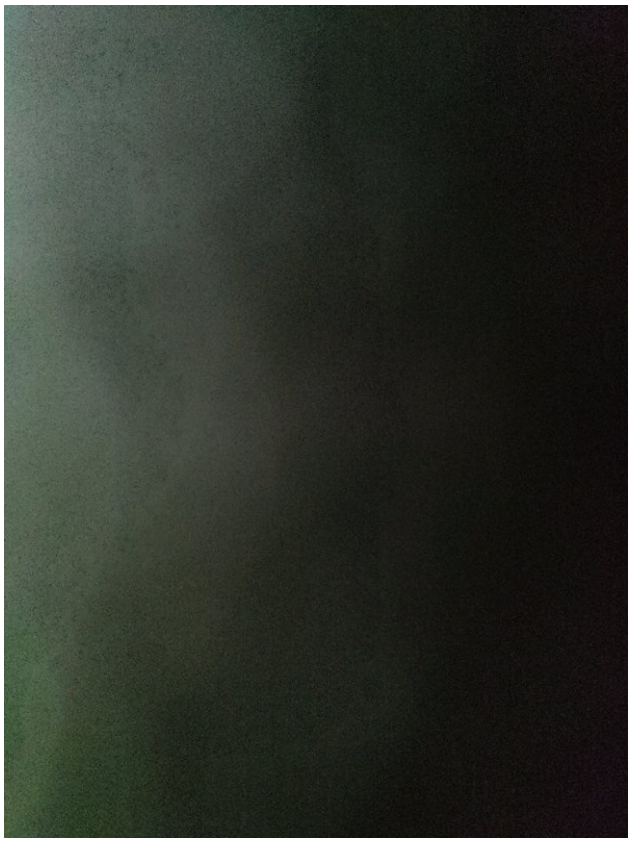
Sampling Location	Structure

Field Kits

Temperature	57.6
pH	6.3
Specific Conductivity (SPC)	634
Surfactants	0.25
Chlorine	0.08
Ammonia	0
Sampling Notes	Likely just stream flow
General Notes	Sampling from outfall because upstream catch basin had silt sock. Manhole in system was unable to be located.

Surface Photos

Interior Photos



New, SWMH-1360

Created	2023-04-27 15:44:50 UTC by EPField 01
Updated	2023-04-27 17:55:29 UTC by EPField 01
Location	42.1341712, -71.1424619

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1360
Structure Type	Manhole
Outfall ID	New
Date	2023-04-27
Time	11:44
Address	2161 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning; deposits observed
Manhole Invert (inches)	57

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	39
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No

Odor	No
Surface Photos	
Interior Photos	

OF-553, SWMH-748

Created	2023-04-27 19:35:18 UTC by EPField 01
Updated	2023-04-27 19:39:57 UTC by EPField 01
Location	42.0864331, -71.1168942

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-748
Structure Type	Manhole
Outfall ID	OF-553
Date	2023-04-27
Time	15:35
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	48

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	46

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	46

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

General Notes	Could not open during the FY22 catchment investigations. Successfully opened during FY23 catchment investigations.

Surface Photos

Interior Photos

OF-65, SWMH-NEW

Created	2023-04-27 15:03:08 UTC by EPField 01
Updated	2023-04-27 15:21:06 UTC by EPField 01
Location	42.1304552, -71.1301441

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-27
Time	11:03
Address	1810 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	126

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	117

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	116

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	88

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	88

2

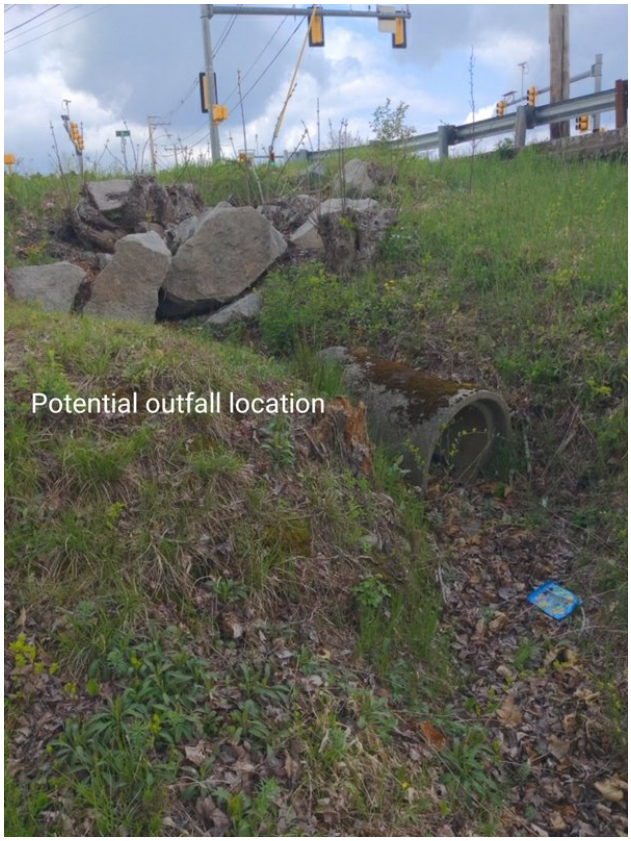
Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
General Notes	Confirm connectivity with Town
Surface Photos	

Interior Photos

Other Photos



OF-792, SWMH-2038

Created	2023-04-27 12:17:26 UTC by EPField 01
Updated	2023-04-27 12:22:36 UTC by EPField 01
Location	42.1600391, -71.0635403

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2038
Structure Type	Manhole
Outfall ID	OF-792
Date	2023-04-27
Time	08:17
Address	G2 Central Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	82

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	71

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

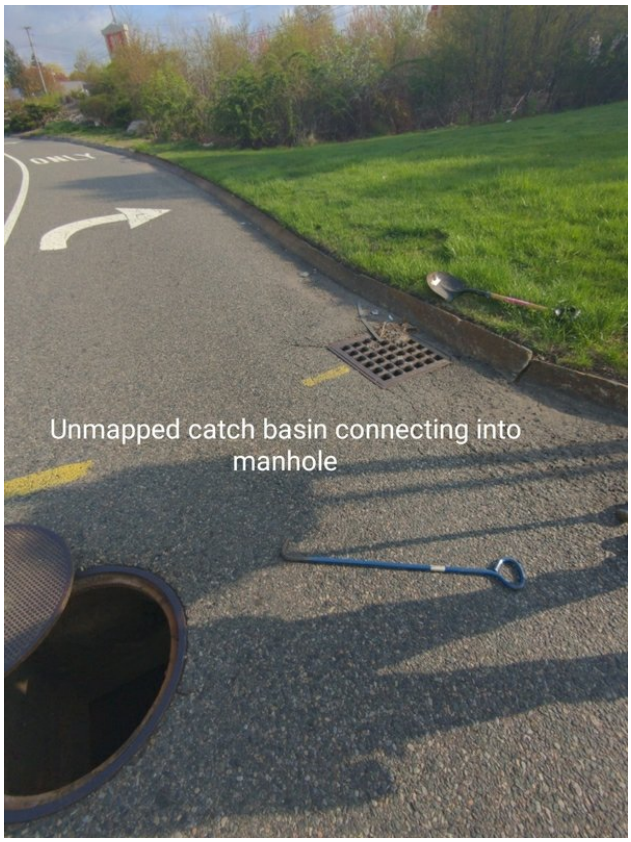
Pipe Notes	Unmapped in GIS
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water observed

Physical Indicators

Floatables	No
Odor	No
General Notes	Interconnection between private and Town.
Surface Photos	

Interior Photos

Other Photos



OF-55, SWMH-31

Project	MVGP - 10/05 - Friday
Created	2023-04-11 14:20:50 UTC by EPField 01
Updated	2023-04-11 14:35:39 UTC by EPField 01
Location	42.1045438, -71.0820055

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-31
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	10:20
Address	8 Atkinson Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	90

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	88

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	86
Pipe Notes	Flowing

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	72
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	10

Physical Indicators

Floatables	No
Odor	No

Pipe, 10

Sampling Location	Pipe
Pipe Clock Position	10

Field Kits

Temperature	56.6
pH	7.04
Specific Conductivity (SPC)	95.1
Surfactants	0.25
Chlorine	0.15
Ammonia	0
Surface Photos	

Interior Photos

OF-807, SWMH-34

Created	2023-04-10 18:11:07 UTC by EPField 01
Updated	2023-04-10 19:37:17 UTC by EPField 01
Location	42.1039889, -71.0800357

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-34
Structure Type	Manhole
Outfall ID	OF-807
Date	2023-04-10
Time	14:11
Address	22 Chase Run Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	54

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	54

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	54

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	54

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	54

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

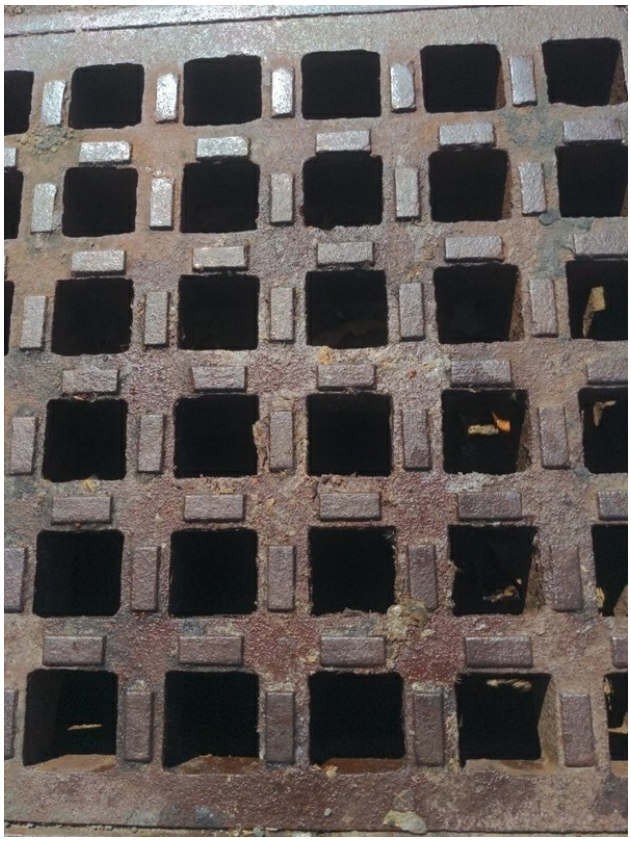
Physical Indicators

Floatables	Yes
Floatables Type	Grease
Floatables Note	Grease found in the upstream catch basin SWIN-677, located in front of 22 Chase Run
Odor	Yes
Odor Type	Rancid/Sour
Odor Note	Odor smells like feces.
Surface Photos	

Interior Photos

Other Photos

DRAINS TO WATERWAYS
DUMP NO WASTE!
DRAINS TO WATERWAYS
DUMP NO WASTE!



OF-NEW , SCUPPER-NEW

Created	2023-04-27 19:14:55 UTC by EPField 01
Updated	2023-04-27 19:22:50 UTC by EPField 01
Location	42.0862019, -71.1175688

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SCUPPER-NEW
Structure Type	Outfall
Outfall ID	OF-NEW
Date	2023-04-27
Time	15:14
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Scupper

Physical Indicators

Floatables	No
Odor	No
General Notes	Deposits found in scupper

Surface Photos

Interior Photos

OF-CNL, SWIN-3008

Created	2023-04-10 13:13:20 UTC by EPField 01
Updated	2023-04-10 15:00:22 UTC by EPField 01
Location	42.1572916, -71.0642356

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3008
Structure Type	Catch Basin
Outfall ID	OF-CNL
Date	2023-04-10
Time	09:13
Address	406 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Clean sediment within structure and outgoing pipe.
Manhole Invert (inches)	51

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	39
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water and sediment present.

Physical Indicators

Floatables	No
Odor	No
General Notes	Could not locate outfall

Surface Photos

Interior Photos

OF-251, SWMH-1906

Created	2023-04-27 18:32:04 UTC by EPField 01
Updated	2023-04-28 17:48:54 UTC by EPField 01
Location	42.0896143, -71.1342436

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1906
Structure Type	Manhole
Outfall ID	OF-251
Date	2023-04-27
Time	14:32
Address	52 Jordan Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	76

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	79

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	78
Pipes Submerged	Partially
Submerged Pipes	Both
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
General Notes	Could not open during the FY22 catchment investigations. Successfully opened during FY23 catchment investigations.

Surface Photos

Interior Photos

OF-243, SWMH-1774

Created	2023-04-25 17:42:36 UTC by EPField 01
Updated	2023-04-25 17:44:23 UTC by EPField 01
Location	42.1228744, -71.0777735

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1774
Structure Type	Manhole
Outfall ID	OF-243
Date	2023-04-25
Time	13:42
Address	282 William Kelley Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	61

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	61

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-CNL, SWIN-3228

Created	2023-04-10 14:05:48 UTC by EPField 01
Updated	2023-04-10 14:19:37 UTC by EPField 01
Location	42.1517732, -71.0656876

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3228
Structure Type	Catch Basin
Outfall ID	OF-CNL
Date	2023-04-10
Time	10:05
Address	601 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Pipe Blockage, Catch basin is 90% full of sediment and should be jetted.
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is full of sediment. Could not verify pipe details. Could not locate outfall/outlet.

Physical Indicators

Floatables	No
Odor	No
General Notes	Manhole across the street potentially connected to catchment, however, manhole could not be opened. Further Town assistance to open manhole and confirm connectivity required.

Surface Photos

Interior Photos

Other Photos

OF-NEW , SCUPPER-NEW

Created	2023-04-27 19:18:20 UTC by EPField 01
Updated	2023-04-27 19:26:38 UTC by EPField 01
Location	42.08641720151979, -71.11760862663735

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SCUPPER-NEW
Structure Type	Outfall
Outfall ID	OF-NEW
Date	2023-04-27
Time	15:18
Address	1782 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	0
Pipes Submerged	No
Flow Present	No
Structure Notes	Scupper

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-792, SWMH-2039

Created	2023-04-27 12:26:02 UTC by EPField 01
Updated	2023-04-27 12:43:28 UTC by EPField 01
Location	42.1601206, -71.0632578

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2039
Structure Type	Manhole
Outfall ID	OF-792
Date	2023-04-27
Time	08:26
Address	G2 Central Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	12:00 incoming pipe is 60% partially filled with deposits and manhole is also partially filled with deposits.
Manhole Invert (inches)	31

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	27

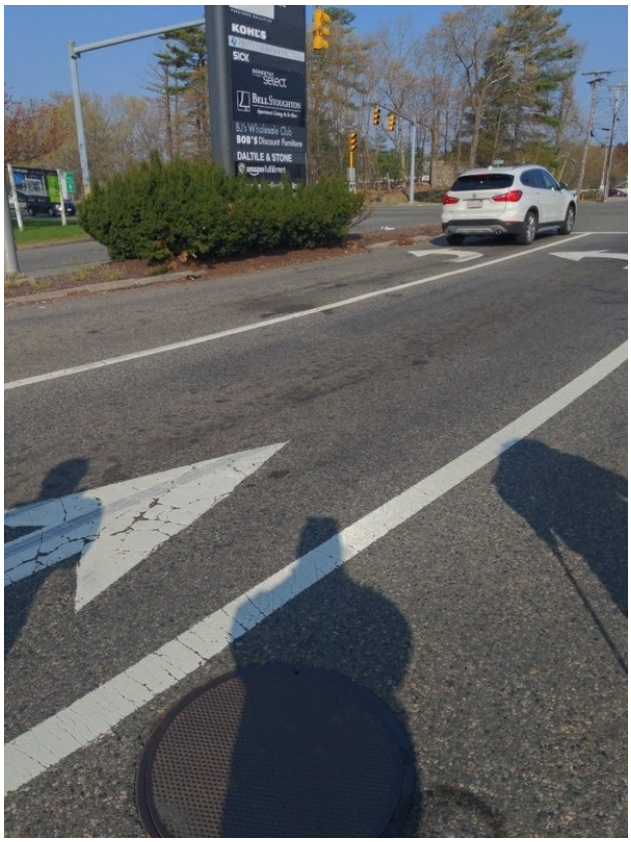
6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	31
Pipe Notes	60% filled with deposits
Pipes Submerged	No
Flow Present	No
Structure Notes	Cannot accurately measure depth of manhole due to the amount of deposits within the manhole.

Physical Indicators

Floatables	No
Odor	No
General Notes	Catch basin upstream are filled with debris

Surface Photos


KOHL'S
SICK
BELL STOUGHTON
BJ's Wholesale Club
BOB'S Discount Furniture
DALTILE & STONE

Interior Photos

OF-516, SWMH-143

Created	2023-03-31 13:08:57 UTC by EPField 01
Updated	2023-03-31 13:13:32 UTC by EPField 01
Location	42.117226, -71.0931928

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-143
Structure Type	Manhole
Outfall ID	OF-516
Date	2023-03-31
Time	09:08
Address	210 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	55

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	57

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	54

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	57

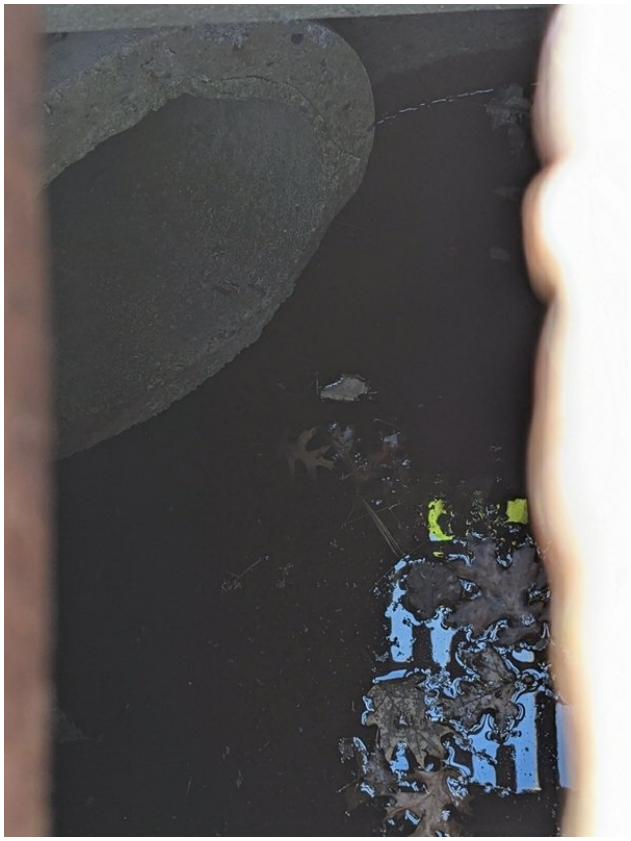
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
General Notes	Structure is dry
Surface Photos	

Interior Photos

Other Photos



OF-516, SWMH-403

Created	2023-03-31 13:49:31 UTC by EPField 01
Updated	2023-03-31 13:56:26 UTC by EPField 01
Location	42.1163668, -71.0931837

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-403
Structure Type	Manhole
Outfall ID	OF-516
Date	2023-03-31
Time	09:49
Address	236 Bancroft Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	69

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-358, SWIN-3220

Created	2023-04-10 14:29:16 UTC by EPField 01
Updated	2023-04-10 14:31:20 UTC by EPField 01
Location	42.1524162, -71.0656837

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3220
Structure Type	Catch Basin
Outfall ID	OF-358
Date	2023-04-10
Time	10:29
Address	501 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	63

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipe Notes	There is a hood on the pipe
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is full of standing water

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

SWMH-2025-INTERCONNECTION, SWMH-2025

Created	2023-04-10 15:00:25 UTC by EPField 01
Updated	2023-04-10 15:04:38 UTC by EPField 01
Location	42.148722, -71.0643274

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2025
Structure Type	Manhole
Outfall ID	SWMH-2025-INTERCONNECTION
Date	2023-04-10
Time	11:00
Address	979-999 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	76

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	72

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Located at the entrance of Amazon.
Surface Photos	

Interior Photos

OF-803, SWMH-566

Project	MVGP - 10/05 - Friday
Created	2023-03-21 18:48:09 UTC by EPField 01
Updated	2023-03-21 18:52:04 UTC by EPField 01
Location	42.0767758, -71.1322764

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-566
Structure Type	Manhole
Outfall ID	OF-803
Date	2023-03-21
Time	14:48
Address	154 Eagle Rock Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	41

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	44

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	41

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	9

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	41
Pipe Notes	All pipes appear to be at the same invert as outlet pipe
Pipes Submerged	Partially
Submerged Pipes	All
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-516, SWMH-405

Created	2023-03-31 12:55:55 UTC by EPField 01
Updated	2023-03-31 13:01:21 UTC by EPField 01
Location	42.1179456, -71.0911822

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-405
Structure Type	Manhole
Outfall ID	OF-516
Date	2023-03-31
Time	08:55
Address	70 Bancroft Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	55

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	54

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55
Pipes Submerged	No
Flow Present	No

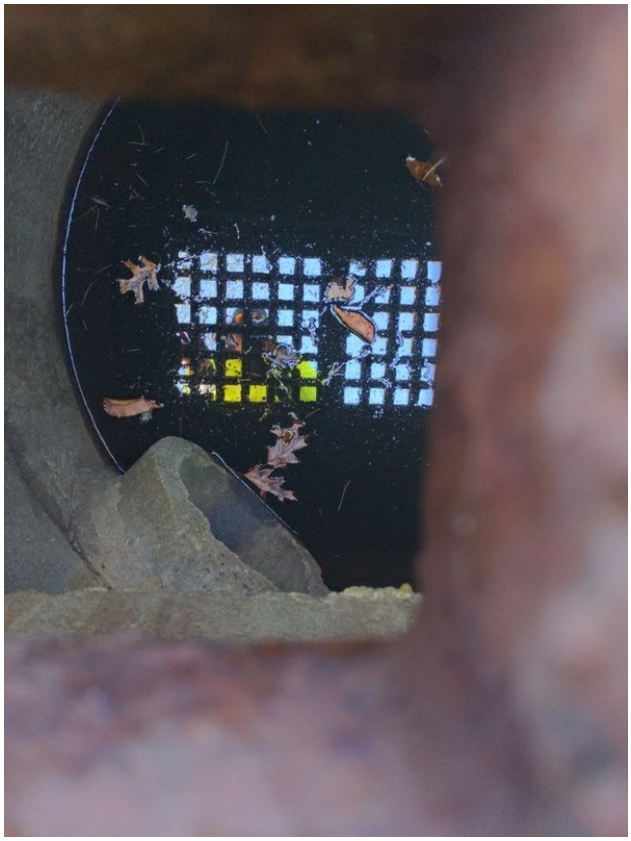
Physical Indicators

Floatables	No
Odor	No
General Notes	Structure is dry

Surface Photos

Interior Photos

Other Photos



OF-56, SWMH-18

Created	2023-04-11 21:06:53 UTC by EPField 01
Updated	2023-04-11 21:08:38 UTC by EPField 01
Location	42.101164, -71.0855485

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-18
Structure Type	Manhole
Outfall ID	OF-56
Date	2023-04-11
Time	17:06
Address	12 Daly Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	64

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	60

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	60
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-809, SWIN-2589

Project	MVGP - 10/05 - Friday
Created	2023-04-04 17:41:21 UTC by EPField 01
Updated	2023-04-04 17:53:10 UTC by EPField 01
Location	42.139523, -71.0766179

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-2589
Structure Type	Catch Basin
Outfall ID	OF-809
Date	2023-04-04
Time	13:41
Address	1151 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	82

6

Pipe Clock Position	6
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	42

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	41
Pipe Notes	PRIVATE

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45
Pipe Notes	BLOCKED OFF
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle

Flow Source	3

Physical Indicators

Floatables	No
Odor	No

Pipe, 3

Sampling Location	Pipe
Pipe Clock Position	3

Field Kits

Temperature	52.9
pH	7.14
Specific Conductivity (SPC)	559
Surfactants	0.75
Chlorine	0.14
Ammonia	0
Surface Photos	

Interior Photos

OF-516, SWMH-455

Created	2023-04-03 13:26:03 UTC by EPField 01
Updated	2023-04-03 13:30:28 UTC by EPField 01
Location	42.1136059, -71.0891289

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-455
Structure Type	Manhole
Outfall ID	OF-516
Date	2023-04-03
Time	09:26
Address	387 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	61

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	60

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	62
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	12:00, incoming
Structure Notes	Trickling, not enough to sample

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-55, SWMH-461

Created	2023-04-11 16:48:34 UTC by EPField 01
Updated	2023-04-11 16:54:56 UTC by EPField 01
Location	42.1049364, -71.0819251

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-461
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	12:48
Address	770 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	97

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	95

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	95

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	94

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67
Pipe Notes	Upper

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	90
Pipe Notes	Lower
Pipes Submerged	Partially
Submerged Pipes	6:00 and 12:00
Flow Present	Yes
Flow Description	Substantial
Flow Source	Culverted stream located upstream

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-NEW, Vortechnics

Created	2023-04-04 18:11:58 UTC by EPField 01
Updated	2023-04-04 18:20:47 UTC by EPField 01
Location	42.1373467, -71.0766231

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	Vortechnics
Structure Type	BMP
Outfall ID	OF-NEW
Date	2023-04-04
Time	14:11
Address	1101 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Clean floatable and oil seen in structure. Reference Vortechnics O&M plan for cleaning schedule.
Manhole Invert (inches)	97
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	Yes
Floatables Type	Oil and trash
Floatables Note	Consider cleaning floatables and refer to Vortechnics O &M for cleaning schedule.
Odor	No
General Notes	Vortechnics structures are located in the grass

Surface Photos

Interior Photos

Other Photos

OF-NEW , SWMH-1022

Created	2023-04-11 19:38:47 UTC by EPField 01
Updated	2023-04-11 19:42:08 UTC by EPField 01
Location	42.1269618, -71.1316545

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1022
Structure Type	Manhole
Outfall ID	OF-NEW
Date	2023-04-11
Time	15:38
Address	144 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Base of manhole has erroded. Recommend repairing.
Manhole Invert (inches)	93

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	90

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57
Pipes Submerged	No
Flow Present	No
Structure Notes	Erosion observed at the bottom of structure.

Physical Indicators

Floatables	No

Odor	No
Surface Photos	

Interior Photos

N/A (leaching catch basin), SWIN-1986

Created	2023-04-04 19:31:47 UTC by EPField 01
Updated	2023-04-04 19:35:46 UTC by EPField 01
Location	42.1294868, -71.0750807

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-1986
Structure Type	Catch Basin
Outfall ID	N/A (leaching catch basin)
Date	2023-04-04
Time	15:31
Address	779 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	75

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	HDPE
Pipe Diameter (inches)	6
Pipe Invert (inches)	18
Pipe Notes	Pipe appears to be discharging from 774 Turnpike St.
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
General Notes	No other drainage connected to structure.

Surface Photos

Interior Photos

OF-751, SWMH-462

Created	2023-04-11 15:23:26 UTC by EPField 01
Updated	2023-04-11 15:25:57 UTC by EPField 01
Location	42.1028377, -71.0811829

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-462
Structure Type	Manhole
Outfall ID	OF-751
Date	2023-04-11
Time	11:23
Address	860 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	78

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	78

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	Orangeburg
Pipe Diameter (inches)	12
Pipe Invert (inches)	46

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	78
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-55, SWMH-439

Created	2023-04-11 14:56:42 UTC by EPField 01
Updated	2023-04-11 14:59:02 UTC by EPField 01
Location	42.1036621, -71.0813775

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-439
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	10:56
Address	907 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	88

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	87

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	87

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-55, SWMH-27

Created	2023-04-11 14:09:22 UTC by EPField 01
Updated	2023-04-11 14:10:55 UTC by EPField 01
Location	42.1027541, -71.0837095

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-27
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	10:09
Address	34 Sullivan Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	62

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	63
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-769, SWIN-104

Created	2023-03-31 14:58:42 UTC by EPField 01
Updated	2023-03-31 15:01:59 UTC by EPField 01
Location	42.1099766, -71.1309475

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-104
Structure Type	Catch Basin
Outfall ID	OF-769
Date	2023-03-31
Time	10:58
Address	86 Polillio Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	52

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	38

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	38
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Manhole is completely paved over.

Surface Photos

Interior Photos

Other Photos

OF-805, SWMH-553

Created	2023-03-21 19:24:38 UTC by EPField 01
Updated	2023-03-21 19:32:47 UTC by EPField 01
Location	42.0794898, -71.1329355

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-553
Structure Type	Manhole
Outfall ID	OF-805
Date	2023-03-21
Time	15:24
Address	110 Eagle Rock Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	100

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	103

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	62

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	75

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	64

Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-453, SWMH-267

Project	MVGP - 10/05 - Friday
Created	2023-03-30 16:13:43 UTC by EPField 01
Updated	2023-03-30 16:25:56 UTC by EPField 01
Location	42.1113918, -71.1172549

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-267
Structure Type	Manhole
Outfall ID	OF-453
Date	2023-03-30
Time	12:13
Address	37 Farrington Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	82

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	36
Pipe Invert (inches)	80.5

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	36
Pipe Invert (inches)	79

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	44

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	53
Pipes Submerged	No
Flow Present	Yes
Flow Description	Substantial
Flow Source	12

Physical Indicators

Floatables	No
Odor	No

Pipe, 12

Sampling Location	Pipe
Pipe Clock Position	12

Field Kits

Temperature	51.1
pH	6.8
Specific Conductivity (SPC)	127.8
Surfactants	0.25
Chlorine	0.07
Ammonia	0
Surface Photos	

Interior Photos

OF-55, SWMH-399

Created	2023-04-11 17:08:30 UTC by EPField 01
Updated	2023-04-11 17:14:42 UTC by EPField 01
Location	42.1067921, -71.0818065

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-399
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	13:08
Address	217 Cedar Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	75

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	70

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	64

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-355, SWIN-3238

Created	2023-04-04 13:59:19 UTC by EPField 01
Updated	2023-04-04 14:02:26 UTC by EPField 01
Location	42.1566884, -71.0647144

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3238
Structure Type	Catch Basin
Outfall ID	OF-355
Date	2023-04-04
Time	09:59
Address	406 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	59

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	0
Pipe Invert (inches)	0
Pipe Notes	Confirmed pipe diameter from outfall. Pipe within catch basin has a hood, therefore, could not confirm pipe diameter or invert.
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present.

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-322, SWMH-322

Created	2023-04-10 17:10:13 UTC by EPField 01
Updated	2023-04-10 17:14:41 UTC by EPField 01
Location	42.1161562, -71.1195143

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-322
Structure Type	Manhole
Outfall ID	OF-322
Date	2023-04-10
Time	13:10
Address	160 Poskus Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	32

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	35

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	33

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	33
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

General Notes	Replacement of the cover and frame is recommended. Severely rust is observed.

Surface Photos

Interior Photos

SWMH-2027- INTERCONNECTION, SWNH-2027

Created	2023-04-10 14:45:59 UTC by EPField 01
Updated	2023-04-10 14:52:42 UTC by EPField 01
Location	42.1502529, -71.0648412

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWNH-2027
Structure Type	Manhole
Outfall ID	SWMH-2027- INTERCONNECTION
Date	2023-04-10
Time	10:45
Address	761 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	115

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	110

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	63

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	88
Pipe Notes	Capped
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-64, SWMH-891

Created	2023-04-11 18:27:41 UTC by EPField 01
Updated	2023-04-25 13:10:59 UTC by EPField 01
Location	42.1307929, -71.1289223

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-891
Structure Type	Manhole
Outfall ID	OF-64
Date	2023-04-11
Time	14:27
Address	1749 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	53

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	48

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	PVC
Pipe Diameter (inches)	4
Pipe Invert (inches)	31
Pipe Notes	From 1749 Central Street

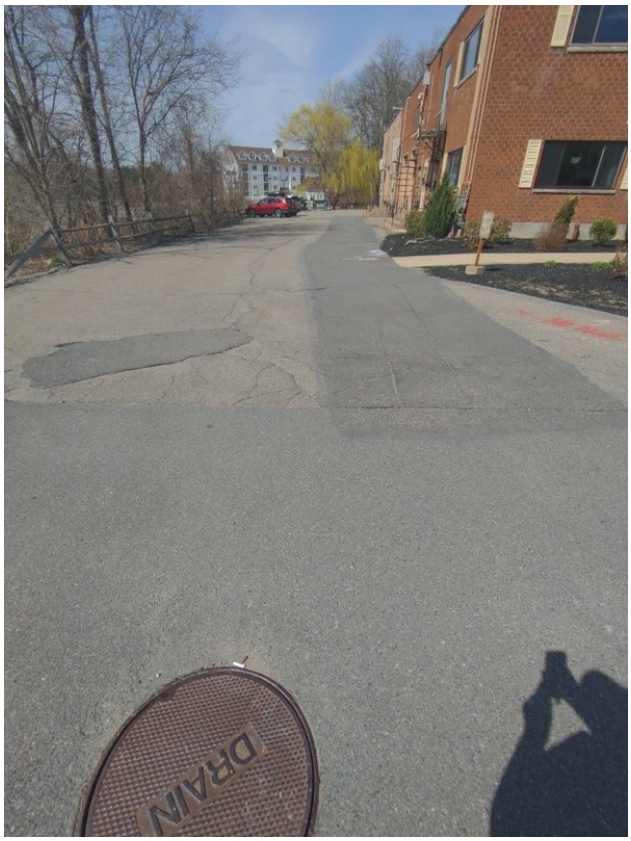
12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	Clay
Pipe Diameter (inches)	12

Pipe Invert (inches)	55
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
Surface Photos	



Interior Photos

OF-65, SWMH-1231

Created	2023-04-25 13:05:40 UTC by EPField 01
Updated	2023-04-27 15:26:53 UTC by EPField 01
Location	42.1308892, -71.1309717

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1231
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-25
Time	09:05
Address	1818 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	56

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	10
Pipe Invert (inches)	54

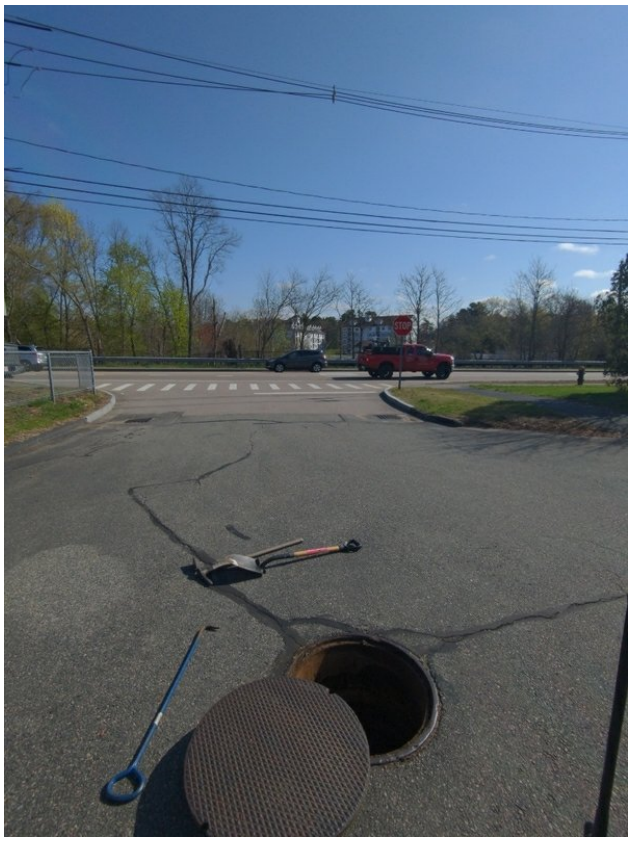
11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	10
Pipe Invert (inches)	53.5

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

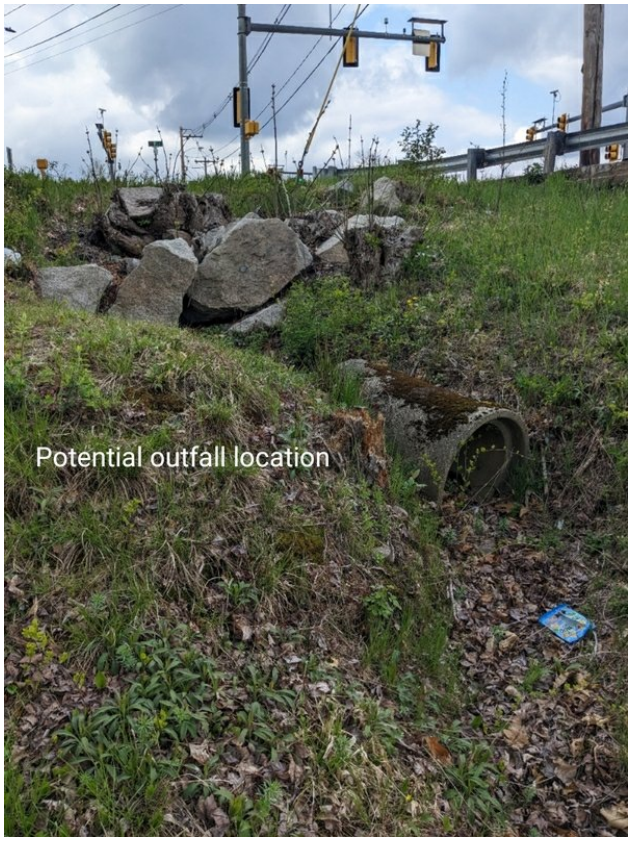
Physical Indicators

Floatables	No
Odor	No
Surface Photos	



Interior Photos

Other Photos



OF-769, SWMH-242

Created	2023-03-31 15:39:03 UTC by EPField 01
Updated	2023-03-31 15:41:49 UTC by EPField 01
Location	42.1115268, -71.1308681

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-242
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-03-31
Time	11:39
Address	192 Everett Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	58

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	30

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	36
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-354, SWIN-3239

Created	2023-04-04 13:54:07 UTC by EPField 01
Updated	2023-04-04 13:57:22 UTC by EPField 01
Location	42.156638, -71.0645513

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3239
Structure Type	Catch Basin
Outfall ID	OF-354
Date	2023-04-04
Time	09:54
Address	406 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	53

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	39
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure has standing water but outgoing pipe is dry.

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-65, SWMH-1051

Created	2023-04-27 14:48:18 UTC by EPField 01
Updated	2023-04-27 14:53:46 UTC by EPField 01
Location	42.1302581, -71.1300495

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1051
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-27
Time	10:48
Address	26 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	96

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	96

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	93

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	41

Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-453, SWMH-203

Project	MVGP - 10/05 - Friday
Created	2023-03-30 14:53:27 UTC by EPField 01
Updated	2023-03-30 15:29:32 UTC by EPField 01
Location	42.1123776, -71.1190513

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-203
Structure Type	Manhole
Outfall ID	OF-453
Date	2023-03-30
Time	10:53
Address	128 Swanson Terrace Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	94

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	36
Pipe Invert (inches)	90

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	36
Pipe Invert (inches)	90

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	Corrugated Metal
Pipe Diameter (inches)	18
Pipe Invert (inches)	73

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	60

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	59
Pipes Submerged	No
Flow Present	Yes
Flow Description	Substantial
Flow Source	10, 1, 2

Physical Indicators

Floatables	No
Odor	No

Pipe, 2

Sampling Location	Pipe
Pipe Clock Position	2

Field Kits

Temperature	54
pH	7.28
Specific Conductivity (SPC)	368
Surfactants	0.25
Chlorine	0
Ammonia	0

Pipe, 1

Sampling Location	Pipe
Pipe Clock Position	1

Field Kits

Temperature	53.4
pH	6.82
Specific Conductivity (SPC)	451
Surfactants	0.75
Chlorine	0.2
Ammonia	0.25

Pipe, 10

Sampling Location	Pipe
Pipe Clock Position	10

Field Kits

Temperature	52.3

pH	6.48
Specific Conductivity (SPC)	141.1
Surfactants	0.5
Chlorine	0.06
Ammonia	0
Surface Photos	

Interior Photos

OF-792, SWMH-2292

Project	MVGP - 10/05 - Friday
Created	2023-04-27 12:53:46 UTC by EPField 01
Updated	2023-04-27 13:05:38 UTC by EPField 01
Location	42.1598179, -71.0635484

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2292
Structure Type	Manhole
Outfall ID	OF-792
Date	2023-04-27
Time	08:53
Address	G2 Central Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	70

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	63

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	67
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	1

Physical Indicators

Floatables	No
Odor	No

Pipe, 1

Sampling Location	Pipe
Pipe Clock Position	1

Field Kits

Temperature	56.3
pH	6.91
Specific Conductivity (SPC)	1639
Surfactants	0.5
Chlorine	0.08
Ammonia	0
General Notes	Manhole is private. Sampling here because upstream Town manhole could not be located (may be buried in soil in center island)
Surface Photos	

Interior Photos

OF-65, SWMH-1021

Created	2023-04-25 14:10:07 UTC by EPField 01
Updated	2023-04-27 15:22:28 UTC by EPField 01
Location	42.1289885, -71.1308903

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1021
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-25
Time	10:10
Address	74 West Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Debris and bricks found at the bottom of the structure and needs to be cleaned
Manhole Invert (inches)	78

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	78

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	51

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No

Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-751, SWMH-NEW

Created	2023-04-11 15:50:03 UTC by EPField 01
Updated	2023-04-11 16:06:31 UTC by EPField 01
Location	42.0983481, -71.0801323

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-751
Date	2023-04-11
Time	11:50
Address	1012 Sumner Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	103

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	104

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	67

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	102

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	101

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61
Pipes Submerged	Partially
Submerged Pipes	6:00 and 12:00
Flow Present	Yes
Flow Description	Moderate
Flow Source	Stream located upstream

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-55, SWMH-26

Project	MVGP - 10/05 - Friday
Created	2023-04-11 13:50:03 UTC by EPField 01
Updated	2023-04-11 14:03:20 UTC by EPField 01
Location	42.1036914, -71.0843174

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-26
Structure Type	Manhole
Outfall ID	OF-55
Date	2023-04-11
Time	09:50
Address	69 Atkinson Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	106

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	99

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	62

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	95
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	12

Physical Indicators

Floatables	No
Odor	No

Pipe, 12

Sampling Location	Pipe
Pipe Clock Position	12

Field Kits

Temperature	54.5
pH	7.4
Specific Conductivity (SPC)	98.8
Surfactants	0.25
Chlorine	0.24
Ammonia	0
Surface Photos	

Interior Photos

OF-788, SWMH-1553

Created	2023-03-23 14:13:21 UTC by EPField 01
Updated	2023-03-23 14:17:53 UTC by EPField 01
Location	42.130193150176176, -71.07112354975375

Background Data

Client	Town of Stoughton
EP Representatives	Mike Franck, Annie Tucker
Structure ID	SWMH-1553
Structure Type	Manhole
Outfall ID	OF-788
Date	2023-03-23
Time	10:13
Address	142 Larson Rd Stoughton, MA 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	110

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	107

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	Unknown
Pipe Diameter (inches)	12
Pipe Invert (inches)	106

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	Corrugated Plastic
Pipe Diameter (inches)	10
Pipe Invert (inches)	66
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-694, SWMH-2271

Created	2023-04-04 16:42:41 UTC by EPField 01
Updated	2023-04-04 16:45:22 UTC by EPField 01
Location	42.1425402, -71.076395

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2271
Structure Type	Manhole
Outfall ID	OF-694
Date	2023-04-04
Time	12:42
Address	9 Maple Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	58

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	49

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	42

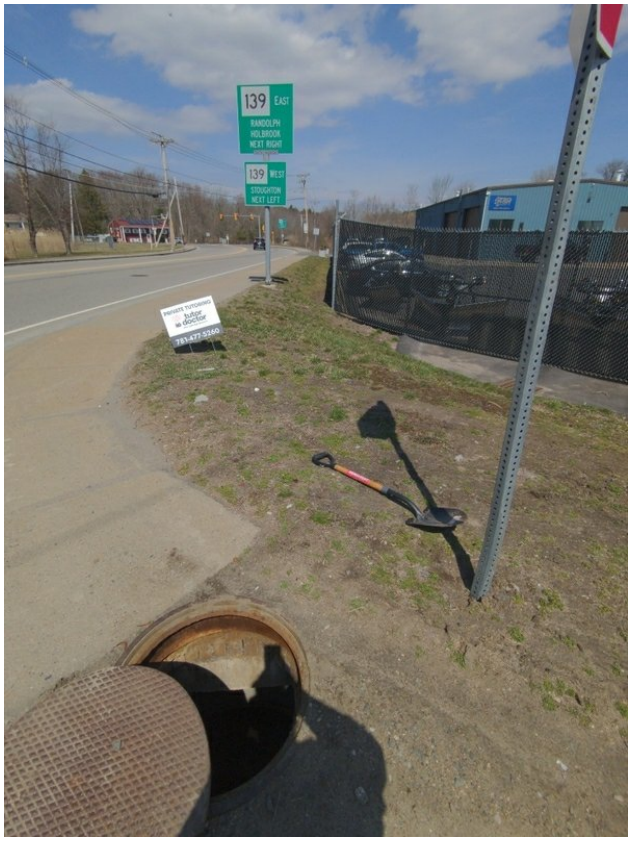
12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	40
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

Surface Photos



Interior Photos

OF-769, SWMH-2311

Project	MVGP - 10/05 - Friday
Created	2023-04-03 16:05:42 UTC by EPField 01
Updated	2023-04-03 16:10:23 UTC by EPField 01
Location	42.1116226, -71.1339285

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2311
Structure Type	Manhole
Outfall ID	OF-769
Date	2023-04-03
Time	12:05
Address	1154 Bay Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	99

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	104

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	30
Pipe Invert (inches)	101

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	72

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	72
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-801, SWMH-456

Created	2023-04-03 13:41:42 UTC by EPField 01
Updated	2023-04-03 13:48:56 UTC by EPField 01
Location	42.1122126, -71.0880018

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-456
Structure Type	Manhole
Outfall ID	OF-801
Date	2023-04-03
Time	09:41
Address	466 Hynes Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Regrade the manhole structure and dewater the standing water. Replace cover and frame; when opening structure, frame came off with cover.
Manhole Invert (inches)	76

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	60

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	66

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP

Pipe Diameter (inches)	12
Pipe Invert (inches)	70
Pipes Submerged	Partially
Submerged Pipes	6:00, 1:00 and 2:00
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-643, OF-643

Created	2023-04-25 19:45:44 UTC by EPField 01
Updated	2023-04-25 19:49:50 UTC by EPField 01
Location	42.1045578, -71.0840795

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	OF-643
Structure Type	Manhole
Outfall ID	OF-643
Date	2023-04-25
Time	15:45
Address	18 Fitzpatrick Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	73

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	42
Pipe Invert (inches)	68
Pipe Notes	Culvert

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	37

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	42
Pipe Invert (inches)	66
Pipe Notes	Culvert

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP

Pipe Diameter (inches)	12
Pipe Invert (inches)	40

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	39
Pipes Submerged	Partially
Submerged Pipes	12:00 and 6:00
Flow Present	Yes
Flow Description	Moderate
Flow Source	Culvert located in structure
Structure Notes	Structure is the outfall.

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-616, SWMH-1696

Created	2023-04-04 19:09:44 UTC by EPField 01
Updated	2023-04-04 19:15:59 UTC by EPField 01
Location	42.133801, -71.0758568

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1696
Structure Type	BMP
Outfall ID	OF-616
Date	2023-04-04
Time	15:09
Address	930 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Maintenance per BMP O&M plan
Manhole Invert (inches)	0

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	Clay
Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipe Notes	Could not measure invert accurately.

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	23
Pipes Submerged	No
Flow Present	No
Structure Notes	Design plans needed to understand the depth of the structure.

Physical Indicators

Floatables	Yes
Floatables Type	Oil
Odor	No
General Notes	Clean floatables per O&M plan. Culvert has flow meter.

Surface Photos

Interior Photos

Other Photos

OF-300, SWMH-254

Project	MVGP - 10/05 - Friday
Created	2023-03-30 18:52:10 UTC by EPField 01
Updated	2023-03-30 19:10:32 UTC by EPField 01
Location	42.1040865, -71.1278852

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-254
Structure Type	Manhole
Outfall ID	OF-300
Date	2023-03-30
Time	14:52
Address	77 Grace Lane Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	162

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	162

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	105

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	164
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

outfall

OF-754, SWMH-1695

Created	2023-04-04 18:31:03 UTC by EPField 01
Updated	2023-04-04 18:41:04 UTC by EPField 01
Location	42.1355431, -71.0764532

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1695
Structure Type	Manhole
Outfall ID	OF-754
Date	2023-04-04
Time	14:31
Address	1050 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	34

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	33
Pipe Notes	2 outgoing pipes at 6:00

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	31
Pipe Notes	2 pipes at 10:00

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	31
Pipe Notes	2 pipes at 5:00
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
General Notes	Vortechnics structures should be cleaned. Refer to O&M to cleaning schedule. The structures are located in front of the Metropolitan Trucking Center Inc. building on 1074 Turnpike St.
Surface Photos	

Interior Photos

Other Photos

OF-265, SWMH-392

Created	2023-03-23 16:51:29 UTC by EPField 01
Updated	2023-03-23 16:59:22 UTC by EPField 01
Location	42.113115086890254, -71.06596071027157

Background Data

Client	Town of Stoughton
EP Representatives	Mike Franck, Annie Tucker
Structure ID	SWMH-392
Structure Type	Manhole
Outfall ID	OF-265
Date	2023-03-23
Time	12:51
Address	212–224 Shuman Ave Stoughton, MA 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	55

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	55

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	53

Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-65, SWMH-1235

Created	2023-04-25 13:49:15 UTC by EPField 01
Updated	2023-04-27 15:23:10 UTC by EPField 01
Location	42.1298225, -71.1314595

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1235
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-25
Time	09:49
Address	1800 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	166

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	166

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	165

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	10
Pipe Invert (inches)	76

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	8
Pipe Invert (inches)	85

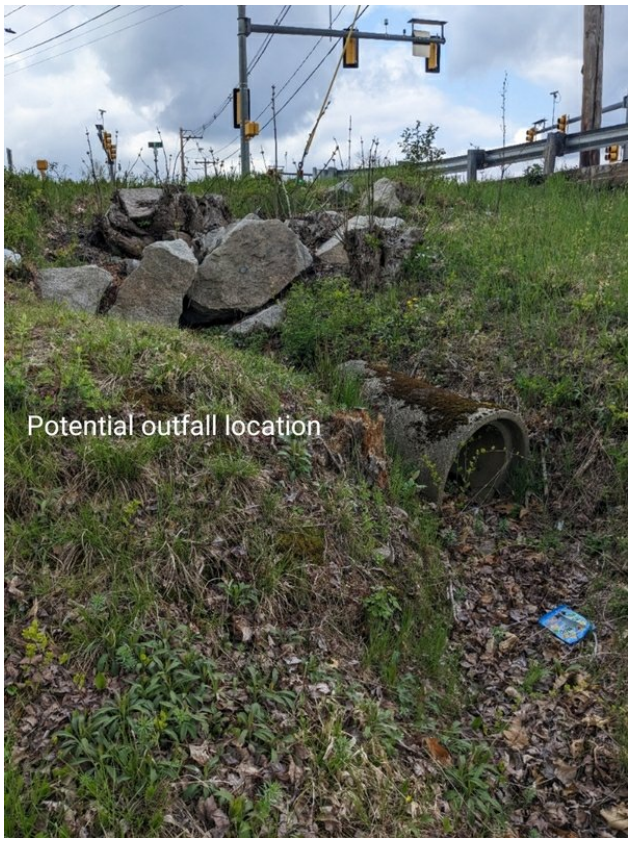
Pipes Submerged	No
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos



OF-112, SWMH-108

Project	MVGP - 10/05 - Friday
Created	2023-04-10 18:56:40 UTC by EPField 01
Updated	2023-04-10 19:10:39 UTC by EPField 01
Location	42.1030721, -71.0799706

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-108
Structure Type	Manhole
Outfall ID	OF-112
Date	2023-04-10
Time	14:56
Address	180 Chase Run Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	72

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	74

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	71
Pipe Notes	Trickling

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	61
Pipes Submerged	No
Flow Present	Yes
Flow Description	Trickle
Flow Source	3

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-65, SWMH-NEW

Created	2023-04-27 14:56:40 UTC by EPField 01
Updated	2023-04-27 15:21:43 UTC by EPField 01
Location	42.1305602, -71.1301458

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-NEW
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-27
Time	10:56
Address	1783 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	56

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	45

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	8
Pipe Invert (inches)	45

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	8
Pipe Invert (inches)	45
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

General Notes	Pipes from catch basin are dual pipes.

Surface Photos

Interior Photos

Other Photos

OF-380, SWMH-349

Project	MVGP - 10/05 - Friday
Created	2023-03-31 17:20:12 UTC by EPField 01
Updated	2023-03-31 17:36:13 UTC by EPField 01
Location	42.1094916, -71.1027512

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-349
Structure Type	Manhole
Outfall ID	OF-380
Date	2023-03-31
Time	13:20
Address	47 Holland Avenue Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	56

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	50

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49.5

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	48

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12

Pipe Invert (inches)	47
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	7

Physical Indicators

Floatables	No
Odor	No

Pipe, 7

Sampling Location	Pipe
Pipe Clock Position	7

Field Kits

Temperature	54.5
pH	6.04
Specific Conductivity (SPC)	340
Surfactants	0.25
Chlorine	0.11
Ammonia	0
General Notes	Grate and rim on SWIN-504 needs to be replaced
Surface Photos	

Interior Photos

OF-356, SWMH-2036

Created	2023-04-04 13:32:03 UTC by EPField 01
Updated	2023-04-04 13:42:23 UTC by EPField 01
Location	42.1555172, -71.065513

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2036
Structure Type	Manhole
Outfall ID	OF-356
Date	2023-04-04
Time	09:32
Address	301 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	52

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	49
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry. Large deposits in the manhole

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-809, SWMH-1796

Created	2023-04-04 17:17:48 UTC by EPField 01
Updated	2023-04-04 17:21:07 UTC by EPField 01
Location	42.1400633, -71.0766972

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1796
Structure Type	Manhole
Outfall ID	OF-809
Date	2023-04-04
Time	13:17
Address	1151 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	52

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	52

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	35

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	36
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-380, SWMH-348

Created	2023-03-31 17:02:26 UTC by EPField 01
Updated	2023-03-31 17:08:19 UTC by EPField 01
Location	42.1091689, -71.1010556

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-348
Structure Type	Manhole
Outfall ID	OF-380
Date	2023-03-31
Time	13:02
Address	27 Smyth Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	62

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	61

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	52

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	48

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	61

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	46
Pipes Submerged	Partially
Submerged Pipes	7 and 9
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

Other Photos

OF-330, SWIN-3009

Created	2023-04-10 13:08:35 UTC by EPField 01
Updated	2023-04-10 13:10:59 UTC by EPField 01
Location	42.1573099, -71.0642849

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3009
Structure Type	Catch Basin
Outfall ID	OF-330
Date	2023-04-10
Time	09:08
Address	406 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	67

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipe Notes	There is a hood on the pipe
Pipes Submerged	No
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-807, SWMH-112

Created	2023-04-10 19:41:57 UTC by EPField 01
Updated	2023-04-10 19:45:06 UTC by EPField 01
Location	42.1011987, -71.079098

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-112
Structure Type	Manhole
Outfall ID	OF-807
Date	2023-04-10
Time	15:41
Address	20 Dennison Court Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	61

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	51

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	56

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	50

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	55

Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-359, SWIN-3231

Created	2023-04-10 14:21:36 UTC by EPField 01
Updated	2023-04-10 14:26:45 UTC by EPField 01
Location	42.1525327, -71.06586

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-3231
Structure Type	Catch Basin
Outfall ID	OF-359
Date	2023-04-10
Time	10:21
Address	501 Technology Center Drive Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	66

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipe Notes	There is a hood on the pipe
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is full of standing water

Physical Indicators

Floatables	No
Odor	No

Surface Photos

Interior Photos

OF-463, SWMH-123

Created	2023-04-03 17:27:51 UTC by EPField 01
Updated	2023-04-03 17:34:54 UTC by EPField 01
Location	42.1082203, -71.0912539

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-123
Structure Type	Manhole
Outfall ID	OF-463
Date	2023-04-03
Time	13:27
Address	143 Ryan Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	74

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	74

11

Pipe Clock Position	11
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	68

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	65

Pipes Submerged	Partially
Submerged Pipes	6:00
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Erosion around the outfall. The pipe segment is dislodged.
Surface Photos	

Interior Photos

Other Photos

OF-809, SWMH-1792

Created	2023-04-04 17:27:32 UTC by EPField 01
Updated	2023-04-04 17:33:33 UTC by EPField 01
Location	42.1394914, -71.0766868

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1792
Structure Type	Manhole
Outfall ID	OF-809
Date	2023-04-04
Time	13:27
Address	1140 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	58

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	DIP
Pipe Diameter (inches)	15
Pipe Invert (inches)	50

8

Pipe Clock Position	8
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	50

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	52

4

Pipe Clock Position	4
Flow Direction	In
Pipe Material	Unknown
Pipe Diameter (inches)	8
Pipe Invert (inches)	51

Pipe Notes	Capped with bricks

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	48
Pipes Submerged	Partially
Submerged Pipes	All
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

OF-804, SWMH-560

Project	MVGP - 10/05 - Friday
Created	2023-03-21 19:06:26 UTC by EPField 01
Updated	2023-03-21 19:10:51 UTC by EPField 01
Location	42.0775538, -71.1317002

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-560
Structure Type	Manhole
Outfall ID	OF-804
Date	2023-03-21
Time	15:06
Address	150 Eagle Rock Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	45

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	51

7

Pipe Clock Position	7
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	0

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	unknown
Pipe Diameter (inches)	0
Pipe Invert (inches)	0
Pipe Notes	Unable to see pipe well

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP

Pipe Diameter (inches)	12
Pipe Invert (inches)	0
Pipes Submerged	Partially
Submerged Pipes	All
Flow Present	No

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

OF-NEW, SWMH-1789

Created	2023-04-04 14:35:23 UTC by EPField 01
Updated	2023-04-04 17:21:47 UTC by EPField 01
Location	42.1431964, -71.0772152

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1789
Structure Type	Manhole
Outfall ID	OF-NEW
Date	2023-04-04
Time	10:35
Address	970 Pleasant Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	61

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	18
Pipe Invert (inches)	49
Pipe Notes	Outlet is filled with debris

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	51
Pipe Notes	Pipe is filled with debris

1

Pipe Clock Position	1
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	10
Pipe Invert (inches)	37

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	DIP

Pipe Diameter (inches)	15
Pipe Invert (inches)	50
Pipes Submerged	Partially
Submerged Pipes	6:00 and 10:00
Flow Present	Yes
Flow Description	Trickle
Flow Source	2:00; trickle but not enough to sample
Structure Notes	Debris found in outgoing 6:00 and incoming 10:00 pipes

Physical Indicators

Floatables	No
Odor	No
Surface Photos	

Interior Photos

Other Photos

Outfall from BMP, located upstream

OF-616, SWMH-2041

Created	2023-04-04 18:56:08 UTC by EPField 01
Updated	2023-04-04 19:00:37 UTC by EPField 01
Location	42.134405, -71.0758561

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-2041
Structure Type	Manhole
Outfall ID	OF-616
Date	2023-04-04
Time	14:56
Address	1072 Turnpike Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning of floatables
Manhole Invert (inches)	60

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	33
Pipe Notes	2 outgoing pipes

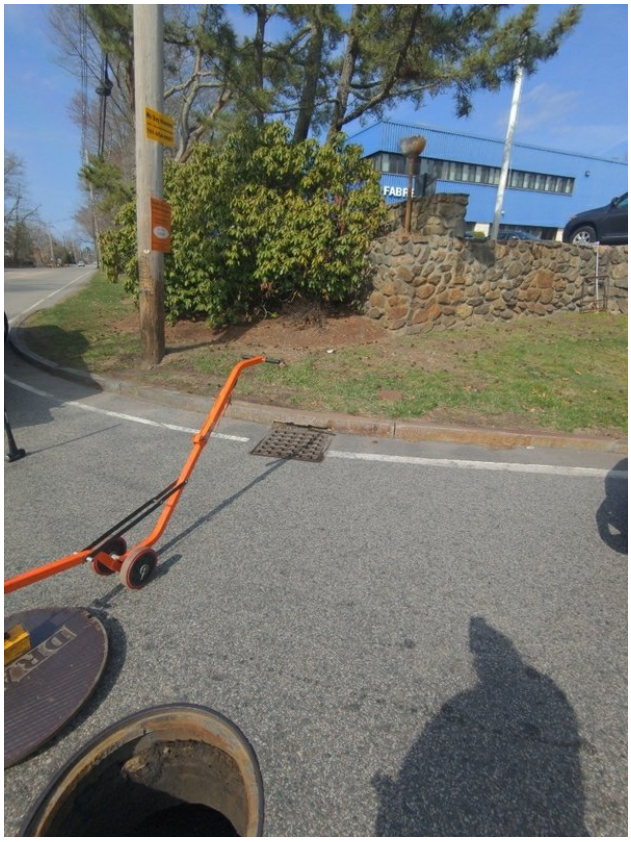
2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	DIP
Pipe Diameter (inches)	8
Pipe Invert (inches)	34
Pipe Notes	2 incoming 2:00 pipes
Pipes Submerged	Partially
Submerged Pipes	All
Flow Present	No
Structure Notes	Standing water is present

Physical Indicators

Floatables	Yes
Floatables Type	Oil
Odor	No
General Notes	Both the outgoing and incoming pipes have deposits and should be cleaned.

Surface Photos



Interior Photos

OF-60, SWMH-307

Project	MVGP - 10/05 - Friday
Created	2023-03-30 13:48:14 UTC by EPField 01
Updated	2023-03-30 14:07:44 UTC by EPField 01
Location	42.1089621, -71.1110891

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-307
Structure Type	Manhole
Outfall ID	OF-60
Date	2023-03-30
Time	09:48
Address	30 Jeffrey Way Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	70

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	71

10

Pipe Clock Position	10
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	24
Pipe Invert (inches)	69.5
Pipes Submerged	No
Flow Present	Yes
Flow Description	Moderate
Flow Source	10

Physical Indicators

Floatables	No
Odor	No

Pipe, 10

Sampling Location	Pipe
Pipe Clock Position	10

Field Kits

Temperature	51.4
pH	7.54
Specific Conductivity (SPC)	689
Surfactants	0.5
Chlorine	0.02
Ammonia	0
Surface Photos	

Interior Photos

OF-463, SWMH-124

Created	2023-04-03 17:43:20 UTC by EPField 01
Updated	2023-04-04 12:45:17 UTC by EPField 01
Location	42.109831, -71.0894476

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-124
Structure Type	Manhole
Outfall ID	OF-463
Date	2023-04-03
Time	13:43
Address	63 Ryan Road Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	No
Manhole Invert (inches)	60

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	15
Pipe Invert (inches)	59

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

2

Pipe Clock Position	2
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

3

Pipe Clock Position	3
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	58

5

Pipe Clock Position	5
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	57
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry

Physical Indicators

Floatables	No
Odor	No
General Notes	Manhole cover says SEWER.
Surface Photos	

SEWER

Interior Photos

OF-65, SWMH-1232

Created	2023-04-25 13:11:10 UTC by EPField 01
Updated	2023-04-27 15:25:47 UTC by EPField 01
Location	42.1306668, -71.1311565

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWMH-1232
Structure Type	Manhole
Outfall ID	OF-65
Date	2023-04-25
Time	09:11
Address	1810 Central Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Debris and bricks found at the bottom of the structure. Cleaning recommended.
Manhole Invert (inches)	89

6

Pipe Clock Position	6
Flow Direction	Out
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	90

9

Pipe Clock Position	9
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	87

12

Pipe Clock Position	12
Flow Direction	In
Pipe Material	RCP
Pipe Diameter (inches)	12
Pipe Invert (inches)	89
Pipes Submerged	No
Flow Present	No
Structure Notes	Structure is dry but lots of debris and bricks at the bottom of the structure

Physical Indicators

Floatables	No

Odor	No
General Notes	Confirm with Town if 9:00 incoming pipe is abandoned.
Surface Photos	
Interior Photos	

Other Photos

OF-NEW, SWIN-2997

Created	2023-04-27 13:50:55 UTC by EPField 01
Updated	2023-04-27 13:55:30 UTC by EPField 01
Location	42.1432107, -71.0647029

Background Data

Client	Town of Stoughton
EP Representatives	Annie Tucker, Karen Chan
Structure ID	SWIN-2997
Structure Type	Catch Basin
Outfall ID	OF-NEW
Date	2023-04-27
Time	09:50
Address	104 Page Street Stoughton, Massachusetts 02072

Structure Information

Maintenance Required	Yes
Maintenance Needs	Cleaning. Floatables observed
Manhole Invert (inches)	63
Pipes Submerged	Fully
Flow Present	No
Structure Notes	Unable accurate readings on pipe details. Mapping seems accurate; Town to assist in locating outfall

Physical Indicators

Floatables	Yes
Floatables Type	Trash and oils
Floatables Note	Cleaning recommended
Odor	No
General Notes	Cannot locate outfall.

Surface Photos

Interior Photos

APPENDIX F

System Vulnerability Factor (SVF) Inventory

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

			Required Factors								Recommended Factors		
Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	**SVF Identified**
OF-105	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-105A(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-105B(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-109	81 D Street	Unnamed Wetlands to Beaver Brook 2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-112	180 Chase Run	Unnamed Tributary near Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-113	96 Daly Drive	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-192	63 York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-194	Intersection of Meadowbrook Lane and York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-195	Intersection of Meadowbrook Lane and York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-204	22 Palisades Circle	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-207	450 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-211	524 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-217	42 Ash Park Drive	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-243	261 William Kelley Road	Unnamed Wetlands to Beaver Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-251	52 Jordan Drive	Unnamed Tributary to Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-265(NEW)	100 Campanelli Parkway	Lovett Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-300	76 Grace Lane	Plain Street Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-304	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-322	166 Kotilk Street	Woods Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-323	98 Kotilk Street	Unnamed Tributary to Steep Hill Brook 3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-330	100 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-331	100 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-342	10 Oliver Lane	Unnamed Tributary to Town Pond 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-350	24 Dino Drive	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-354	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-355	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-356	301 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-357	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-358	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	SVF Identified
OF-359	501 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-362	601 Technology Center Drive	Unnamed Wetlands to Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-378	769 Highland Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-380	20 Smyth Street	Unnamed Tributary to Dorchester Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-399	30 Turnstone Terrace	Briggs Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-419	70 Drinkwater Avenue	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-453	129 Swanson Terrace	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-458	111 East Vanston Road	Unnamed Tributary to Beaver Brook 3	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-459	71 East Vanston Road	Unnamed Tributary to Beaver Brook 3	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-463	143 Crockett Street	Unnamed Tributary to Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-464	35 Crockett Street	Unnamed Tributary to Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-468	20 Turnstone Terrace	Briggs Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-478	215 Woodpecker Road	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-492	1074 Turnpike Street	Unnamed Tributary To Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-516	3 Sumner Street	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-54	125 Atkinson Avenue	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-55	107 Atkinson Avenue	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-553	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553O-1 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-1 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-2 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-3 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-4 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-5 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-553S-6 (NEW)	1782 West Street	Ames Long Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-56	11 Daly Drive Extension	Dorchester Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-560(NEW)	144 West Street	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-560S(NEW)	144 West Street	Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-57	1493 Morton Street	Unnamed Tributary to Dorchester Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-580	92 Tremont Street	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-59	41 Jeffery Way	Unnamed Tributary near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-60	30 Jeffery Way	Unnamed Tributary near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-612	1749 Central Street	Unnamed Tributary (MA73-32)	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-616	1023 Turnpike Street	Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-64	1810 Central Street	Unnamed Tributary to Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-641	45 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-643	18 Fitzpatrick Street	Coweeset Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-65	1810 Central Street	Unnamed Tributary (MA73-32)	No	No	No	No	No	No	N/A	No	No	No	**NO**

Table 3: Outfall-Catchment System Vulnerability Factor (SVF) Inventory
Stoughton, Massachusetts

Outfall ID	Address	Receiveing Water	History of SSOs	Common or Twin Invert Manholes	Common Trench Construction	Storm/Sanitary Crossings (Sanitary Above)	Sanitary Lines with Underdrains	Inadequate Sanitary Level of Service	Areas Formerly Served by Combined Sewers	Sanitary Infrastructure Defects	Septic with Poor Soils or Water Table Separation	History of BOH Actions Addressing Septic Failure	**SVF Identified**
OF-653	33 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-669	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-671	92 Tremont Street	Unnamed Tributary to Steep Hill Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-69	23 Plain Drive	Plain Street Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-694	951 Pleasant Street	Unnamed Tributary To Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-70	32 Kwedar Avenue	Unnamed Tributary to Town Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-710	Intersection of Central Street and Old South Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-723	21 Plain Street	Unnamed Pond near Woods Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-735	358-366 Island Street	East Branch Neponset River	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-739	104 Page Street	Unnamed Pond near Three Swamp Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-742	1749 Central Street	Unnamed Tributary to Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-743	63 Central Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-744	63 Central Street	Unnamed Wetlands near Lovett Brook 2	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-747	2050 Central Street	Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-748	2070 Central Street	Steep Hill Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-751	1027 Sumner Street	Coweeset Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-754	1050 Turnpike Street	Unnamed Tributary To Beaver Brook	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-759	155 York Street	Beaver Meadow Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-764	1361 Bay Road	Dry Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-769	1154 Bay Road	Town Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-788	160 Larson Road	Brockton Reservoir	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-792	G2 Central Drive	Cochato River	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-801	3 Sumner Street	Unnamed Tributary to Beaver Brook 6	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-803	170 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-804	150 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-805	128 Eagle Rock Road	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-807	20 Dennison Court	Unnamed Tributary	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-809	1140 Old Maple Street	Beaver Brook	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-812 (NEW)	1098 Turnpike Street	Unnamed Tributary to Beaver Pond	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**
OF-813 (NEW)	20 Maple Street	Unnamed Tributary to Beaver Pond	No	No	No	No	No	No	N/A	No	No	No	**NO**
OF-98	146 Shuman Avenue	Unnamed Wetlands near Lovett Brook 1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	No	No	No	**NO**

Presence/Absence Evaluation Criteria:

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

OPTIONAL FACTORS

10. Widespread code-required septic system upgrades required at property transfers (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)
11. History of multiple Board of Health actions addressing widespread septic system failures (indicative of inadequate soils, water table separation, or other physical constraints of the area rather that poor owner maintenance)

APPENDIX G

New England Interstate Water Pollution Control Commission

IDDE Manual

ILLICIT DISCHARGE DETECTION AND ELIMINATION MANUAL

A Handbook for Municipalities

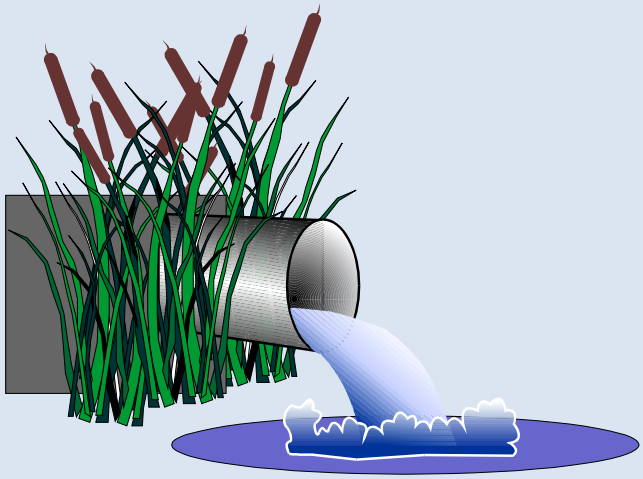
NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION

January 2003

This page is intentionally blank.

ILLICIT DISCHARGE DETECTION AND ELIMINATION MANUAL

A Handbook for Municipalities



Prepared by the

NEW ENGLAND INTERSTATE WATER POLLUTION CONTROL COMMISSION

Boott Mills South

100 Foot of John Street

Lowell, Massachusetts 01852

Ronald F. Poltak, *Executive Director*

COMPACT MEMBER STATES

Connecticut
Maine
Massachusetts
New Hampshire
New York
Rhode Island
Vermont

Copies of this document may be downloaded from *www.neiwpcc.org.*

January 2003

ACKNOWLEDGEMENTS

This manual was developed by the New England Interstate Water Pollution Control Commission (NEIWPCC). NEIWPCC is a nonprofit interstate agency, established by an Act of Congress in 1947, that serves its member states (Connecticut, Maine, Massachusetts, New Hampshire, New York, Rhode Island, and Vermont) by providing coordination, public education, training, and leadership in the management and protection of water quality.

This project was initiated by NEIWPCC's Storm Water Workgroup, which is composed of state and federal environmental agency staff. The group perceived a need for resources to help municipalities in NEIWPCC-member states that are regulated under the U.S. Environmental Protection Agency's (EPA's) Phase II storm water program comply with regulatory requirements. This manual is intended to help municipalities develop illicit discharge detection and elimination programs—one of the six minimum control measures under Phase II.

This manual was made possible by a grant from the U.S. Environmental Protection Agency. The contents do not necessarily reflect the views and policies of EPA or NEIWPCC's member states, nor does the mention of trade names or commercial products constitute endorsement or recommendation for use.

This manual was compiled and written by Rebekah Lacey, with assistance from Kim Starbuck and other NEIWPCC staff. Editing, graphic design, and layout were performed by Ellen Frye and Ricki Pappo of ENOSIS. Thelma Murphy served as the EPA Project Officer. NEIWPCC would like to thank Andrea Donlon, NHDES, for her many contributions to this document, which included providing information, comments, and photographs—most of the photographs in the manual were either provided by Andrea or taken by NEIWPCC staff while accompanying Andrea on field work.

NEIWPCC would also like to thank the following people who contributed their time in providing information for and/or reviewing the manual:

Interviews or Other Information

Kathy Baskin, Charles River Watershed Association
Paul Barden, BWSC
Michael Cuneo, Town of Dedham, MA
Andrea Donlon, NHDES
Tim Grover, City of Winooski, VT
Charlie Jewell, BWSC
Natalie Landry, NHDES
Ginny Scarlet, MADEP

Review

Jeff Andrews, NHDES
Andrea Donlon, NHDES
Bryant Firmin, MADEP
Greg Goblick, RIDEM
Tim Grover, City of Winooski, VT
David Ladd, MEDEP
Steve Lipman, MADEP
Thomas Mahin, MADEP
Thelma Murphy, USEPA
Jim Pease, VTDEC
Ginny Scarlet, MADEP
Chris Stone, CTDEP

CONTENTS

ACKNOWLEDGEMENTS 4

CONTENTS 5

ACRONYMS 7

INTRODUCTION 9

Who Administers the Phase II Storm Water Program? 9
What Is Regulated Under Phase II? 9
Where Does IDDE Fit In? 10
About This Manual 10

1 GETTING STARTED WITH YOUR IDDE PROGRAM 11

What Is an Illicit Discharge? 11
What Are the Elements of an IDDE Program? 11
References: Chapter 1 12

2 DEVELOPING A STORM SEWER MAP 13

Conducting a Field Survey 13
Mapping Options 13
Figure 1: Sample Map 15
Prioritizing Areas to be Mapped 15
References: Chapter 2 16

3 PROHIBITING ILLICIT DISCHARGES 17

Illicit Discharge Ordinances 17
References: Chapter 3 18

4 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: LOCATING PRIORITY AREAS 19

Identifying Possible Hot Spots 19
Conducting Dry-Weather Outfall/Manhole Surveys 20
Conducting Water Quality Tests 22
Table 1: Water Quality Test Parameters and Uses 23
References: Chapter 4 24

5 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: TRACING THE SOURCE OF AN ILLICIT DISCHARGE **25**

Manhole Observations 25
Video Inspection 26
Smoke Testing 26
Dye Testing 26
Aerial Infrared and Thermal Photography 27
Tracking Illegal Dumping 28
References: Chapter 5 29

6 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: REMOVING THE SOURCE OF AN ILLICIT DISCHARGE **31**

Compliance Assistance and Enforcement for Illegal Connections to Homes and Businesses 31
Proper Construction and Maintenance of MS4s 33
Preventing and Responding to Illegal Dumping 34
References: Chapter 6 35

7 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: EVALUATION OF THE IDDE PROGRAM **37**

Evaluation Strategy 37
References: Chapter 7 38

8 OUTREACH TO EMPLOYEES, BUSINESSES, AND THE GENERAL PUBLIC **39**

Public Employees 39
Businesses 40
General Public 40
References: Chapter 8 41

9 BMPS AND MEASURABLE GOALS FOR IDDE **43**

Getting Started 43
References: Chapter 9 45

10 RESOURCES **47**

Web Sites and Publications 47
Contacts 51

APPENDIX A: MODEL ILLICIT DISCHARGE AND CONNECTION STORM WATER ORDINANCE **53**

ACRONYMS

BMP	Best Management Practice
BWSC	Boston Water and Sewer Commission
GIS	Geographic Information System
GPS	Global Positioning System
IDDE	Illicit Discharge Detection and Elimination
MS4	Municipal Separate Storm Sewer System
NPDES	National Pollutant Discharge Elimination System
NOV	Notice of Violation
SIC	Standard Industrial Classification

EPA	U.S. Environmental Protection Agency
CTDEP	Connecticut Department of Environmental Protection
MEDEP	Maine Department of Environmental Protection
MADEP	Massachusetts Department of Environmental Protection
NHDES	New Hampshire Department of Environmental Services
NYSDEC	New York State Department of Environmental Conservation
RIDEM	Rhode Island Department of Environmental Management
VTDEC	Vermont Department of Environmental Conservation

This page is intentionally blank.

INTRODUCTION

Although the quality of the nation's waters has improved greatly since the passage of the Clean Water Act in 1972, many water bodies are still impaired by pollution. According to the U.S. Environmental Protection Agency's (EPA's) 2000 National Water Quality Inventory, 39 percent of assessed river and stream miles, 46 percent of assessed lake acres, and 51 percent of assessed estuarine square miles do not meet water quality standards. The top causes of impairment include siltation, nutrients, bacteria, metals (primarily mercury), and oxygen-depleting substances. Polluted storm water runoff, including runoff from urban/suburban areas and construction sites, is a leading source of this impairment. To address this problem, EPA has put into place a program that regulates certain storm water discharges.

Polluted storm water runoff, including runoff from urban/suburban areas and construction sites, is a leading source of water quality impairment. To address this problem, EPA has put into place a program that regulates certain storm water discharges.

In 1990, EPA promulgated Phase I of its storm water program under the National Pollutant Discharge Elimination System (NPDES) permit provisions of the Clean Water Act. Phase I addressed storm water runoff from "medium" and "large" municipal separate storm sewer systems (MS4s) generally serving populations of 100,000 or greater, construction activity that would disturb five or more acres of land, and 10 categories of industrial activity. To further reduce the adverse effects of storm water runoff, EPA instituted its Storm Water Phase II Final Rule on December 8, 1999.

WHO ADMINISTERS THE PHASE II STORM WATER PROGRAM?

The Phase II storm water program is part of EPA's NPDES program, which in many states is delegated to state authorities to administer. Connecticut, Maine, New York, Rhode Island, and Vermont are authorized to serve as NPDES permitting authorities. EPA Region 1 serves as the permitting authority for Massachusetts and New Hampshire. EPA is also the permitting authority for all federally recognized Indian Country lands and for federal facilities in Massachusetts, New Hampshire, and Vermont.

WHAT IS REGULATED UNDER PHASE II?

Phase II regulates discharges from small MS4s located in "urbanized areas" (as delineated by the Census Bureau in the most recent census) and from additional small MS4s designated by the permitting authority. Phase II also regulates construction activities that would disturb between one and five acres of land. In addition, the Phase II Final Rule ends the temporary exemption from Phase I requirements for some municipally operated industrial activities[1] and revises the "no exposure" provision for Phase I-regulated industrial activities.

MS4s are typically operated by municipalities, but the Phase II definition of "municipal separate storm sewer systems" includes storm sewer systems owned or operated by other public bodies (e.g., states, counties, Indian tribes, departments of transportation, universities). EPA also notes that an MS4 is not always just a system of underground pipes; it can include roads with drainage systems, gutters, and ditches.

[1] This temporary exemption was provided by the Intermodal Surface Transportation Act (ISTEA) of 1991.

The rules for determining which small MS4s are regulated under Phase II are somewhat complex; MS4 operators should consult the NPDES permitting authority for their state to determine whether their MS4s are regulated. Note also that requirements may be different if a municipality is located only partially within an urbanized area.

WHERE DOES IDDE FIT IN?

EPA's Phase II rule specifies that permitting authorities must issue general permits for "automatically designated" small MS4s by December 9, 2002. The rule requires that operators of these automatically designated small MS4s apply for NPDES permit coverage within 90 days of permit issuance, and no later than March 10, 2003[2]. To obtain this coverage, an MS4 operator must develop, implement, and enforce a storm water management program that is designed to reduce the discharge of pollutants to the maximum extent practicable, protect water quality, and satisfy the applicable water quality requirements of the Clean Water Act. EPA's Storm Water Phase II Final Rule states that this storm water management program must include the following six minimum control measures:

- Public education and outreach on storm water impacts
- Public involvement and participation
- ➤ **Illicit discharge detection and elimination (IDDE)**
- Construction site storm water runoff control
- Post-construction storm water management in new development and redevelopment
- Pollution prevention and good housekeeping for municipal operations

As part of their applications for permit coverage, MS4 operators must identify the best management practices they will use to comply with each of the six minimum control measures and the measurable goals they have set for each measure.

ABOUT THIS MANUAL

This manual is intended to help municipalities in the New England states and New York develop illicit discharge detection and elimination (IDDE) programs required by EPA's Phase II storm water program. EPA's Phase II storm water regulations provide guidelines that are used by permitting authorities in writing their permits. This manual provides general information based on EPA's Phase II storm water regulations; it is important to consult the permitting authority in your state (see Chapter 10) to find out about state-specific requirements.

EPA's Phase II storm water regulations provide guidelines that are used by permitting authorities in writing their permits. This manual provides general information based on EPA's Phase II storm water regulations; it is important to consult the permitting authority in your state to find out about state-specific requirements.

Chapter 1 explains the IDDE requirement of EPA's Phase II regulations. Chapters 2 through 8 describe the required elements of an IDDE program and provide information to help municipalities execute each of these elements. Chapter 9 provides information on best management practices and measurable goals for IDDEs. Chapter 10 lists additional resources and contacts that may be helpful in developing an IDDE program.

[2] There are some exceptions to this deadline; contact the permitting authority in your state for up-to-date official information.

1 GETTING STARTED WITH YOUR IDDE PROGRAM

As you set out to develop your illicit discharge detection and elimination (IDDE) program, you will need to start by making sure that you know the answers to two key questions: (1) What is an illicit discharge? and (2) What are the required elements of an IDDE program? In this chapter we'll review the answers to these questions; we'll provide supporting information and details in subsequent chapters.

WHAT IS AN ILLICIT DISCHARGE?

The term "illicit discharge" is defined in EPA's Phase II storm water regulations as "any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to an NPDES permit and discharges resulting from fire-fighting activities."

Illicit discharges can be categorized as either direct or indirect.

- Examples of direct illicit discharges:
  - sanitary wastewater piping that is directly connected from a home to the storm sewer
  - materials (e.g., used motor oil) that have been dumped illegally into a storm drain catch basin
  - a shop floor drain that is connected to the storm sewer
  - a cross-connection between the municipal sewer and storm sewer systems
- Examples of indirect illicit discharges:
  - an old and damaged sanitary sewer line that is leaking fluids into a cracked storm sewer line
  - a failing septic system that is leaking into a cracked storm sewer line or causing surface discharge into the storm sewer

Illicit discharge

Any discharge to a municipal separate storm sewer that is not composed entirely of storm water, except discharges pursuant to an NPDES permit and discharges resulting from fire-fighting activities.

WHAT ARE THE ELEMENTS OF AN IDDE PROGRAM?

EPA's Phase II regulations state that an IDDE program must incorporate the following four elements.

- Develop (if not already completed) a storm sewer system map showing the location of all outfalls, and the names and location of all waters of the United States that receive discharges from those outfalls.

NON-STORM WATER DISCHARGES THAT YOUR IDDE PROGRAM MAY NOT NEED TO ADDRESS

According to EPA's Phase II storm water regulations, an illicit discharge detection and elimination program need only address the following categories of non-storm water discharges if the operator of a small MS4 identifies them as significant contributors of pollutants to the MS4:

- water line flushing
- landscape irrigation
- diverted stream flows
- rising ground waters
- uncontaminated ground water infiltration
- uncontaminated pumped ground water
- discharges from potable water sources
- foundation drains
- air conditioning condensation
- irrigation water
- springs
- water from crawl space pumps
- footing drains
- lawn watering
- individual residential car washing
- flows from riparian habitats and wetlands
- dechlorinated swimming pool discharges
- street wash water

- To the extent allowable under state, tribal, or local law, effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the separate storm sewer system and implement appropriate enforcement procedures and actions as needed.
- Develop and implement a plan to detect and address illicit discharges, including illegal dumping, to the system.
- Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste.

For each of these mandatory elements, EPA suggests a variety of approaches that can help in creating a successful IDDE program. The mandatory elements and the suggested approaches will be discussed further in the next seven chapters.

REFERENCES: CHAPTER 1

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

USEPA. 2000. EPA Storm Water Phase II Final Rule Fact Sheet 2.5: *Illicit Discharge Detection and Elimination Minimum Control Measure.* EPA 833-F-00-007. January 2000. *http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm*

2 DEVELOPING A STORM SEWER MAP

The creation of a storm sewer map is the first mandatory element of an IDDE program. Phase II requires that the operator of a regulated MS4 develop a map of the MS4 that shows, at a minimum, the location of all outfalls and the names and locations of all waters of the United States that receive discharges from those outfalls. While many municipalities in the Northeast already have detailed maps of their storm sewer systems, others, typically those in older or more rural areas, have the information scattered in different locations. These municipalities will have the most work to do to comply with this requirement. If you need to develop a map, begin by collecting any existing information on outfall locations (e.g., review city records, drainage maps, storm drain maps, state or federal storm water permit files, state transportation maintenance maps), and then conduct field surveys to verify the locations.

CONDUCTING A FIELD SURVEY

A field survey of outfall locations will often be necessary to create a map or verify and update an existing map. The References section at the end of the chapter provides a Web link for a sample guide for conducting a storm drain mapping survey (MA DFWELE, 2002). Field outfall surveys generally include the following basic steps:

- Survey receiving waters on foot or by boat to look for all outfalls (i.e., wade small receiving waters or use a boat for larger receiving waters).
- Note the locations of outfalls on a map. The map scale should be such that outfalls can be located accurately.
- Assign a code or label to each outfall. Adopt a logical, easy-to-understand system (e.g., distance along the stream).
- Fill out a survey sheet for each outfall, noting characteristics such as dry weather discharge and deposits or stains.

The goal of a mapping program should be functionality—find a way to map outfalls such that you (and the permitting authority) can locate any specific outfall to check on discharges.

MAPPING OPTIONS

For municipalities that do not already have a storm sewer map, it is important to determine the type of map (e.g., topographic, hand or computer drafted) that best fits your needs. Because there is no specific mapping standard in the Phase II rule, the goal of a mapping program should be functionality—find a way to map outfalls such that you

CAN A DITCH BE AN OUTFALL?

The paragraph below is an excerpt from EPA's Storm Water Phase II Final Rule (USEPA, 1999).

The term "outfall" is defined in 40 CFR 122.26(b)(9) as "a point source at the point where a municipal separate storm sewer discharges to waters of the United States." The term "municipal separate storm sewer" is defined at 40 CFR 122.26(b)(8) as "a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains)." Following the logic of these definitions, a "ditch" may be part of the municipal separate storm sewer, and at the point where the ditch discharges to waters of the United States, it is an outfall. As with any determination about jurisdictional provisions of the CWA, however, final decisions require case-specific evaluations of fact.

(and the permitting authority) can locate any specific outfall to check on discharges. The most basic way to meet the mapping requirement is to use an existing map (e.g., a topographic map) that shows receiving waters. You can then mark outfall locations on the map by hand (using existing information augmented by a field survey). Make sure the names of receiving waters are shown on the map; for receiving waters that don't have names, it is helpful to indicate the nearest named water body downstream. The graphic at the beginning of this chapter shows an example of a marked-up United States Geological Survey map (markings do not represent actual outfalls). The next step up is a more sophisticated paper map (e.g., blueprint-style). Figure 1 presents an example of a simple paper map showing outfalls and other key features of the storm sewer system.

In many municipalities, a paper map may be completely adequate for carrying out an IDDE program. However, if your MS4 has the resources, or if your municipality has a complex storm sewer system, you may want to make use of available computer technology in making your map.

Global Positioning System (GPS) technology can be used to obtain the coordinates (longitude and latitude) for each outfall. A GPS unit, which uses data from the U.S. Department of Defense's constellation of GPS satellites to constantly update position, can be carried with you on your field survey. A particular position can be recorded and later downloaded into a Geographic Information System (GIS) database. Using GIS, the coordinates can be linked with other site-specific information, such as a picture and history of the outfall. GPS units can be purchased or rented.

There are various computerized mapping programs. A GIS program (e.g., ArcGIS) combines a georeferenced database with mapping capability, so that different geographical attributes (e.g., streets, outfalls, land use, monitoring data) can be mapped as

"layers" and displayed either separately or together. AutoCAD®, a design/drafting platform, is another program commonly used for storm sewer mapping.

If you plan to map via computer, decide if you want to make the mapping system compatible with other departments within your municipality and/or with other data sources (e.g., state agencies that provide GIS layers). Since storm sewer systems are often constructed in roadways, the use of the GIS road line data layer can be helpful in developing a map. If this layer is available, it is usually very accurate and frequently updated by state or regional agencies. Local or regional planning commissions may be able to provide assistance with GIS technology and map development. Once a particular software system has been chosen, it is helpful to require developers to submit compatible electronic updates for subsequent development to ensure that the map and data remain current after the initial mapping effort is finished.

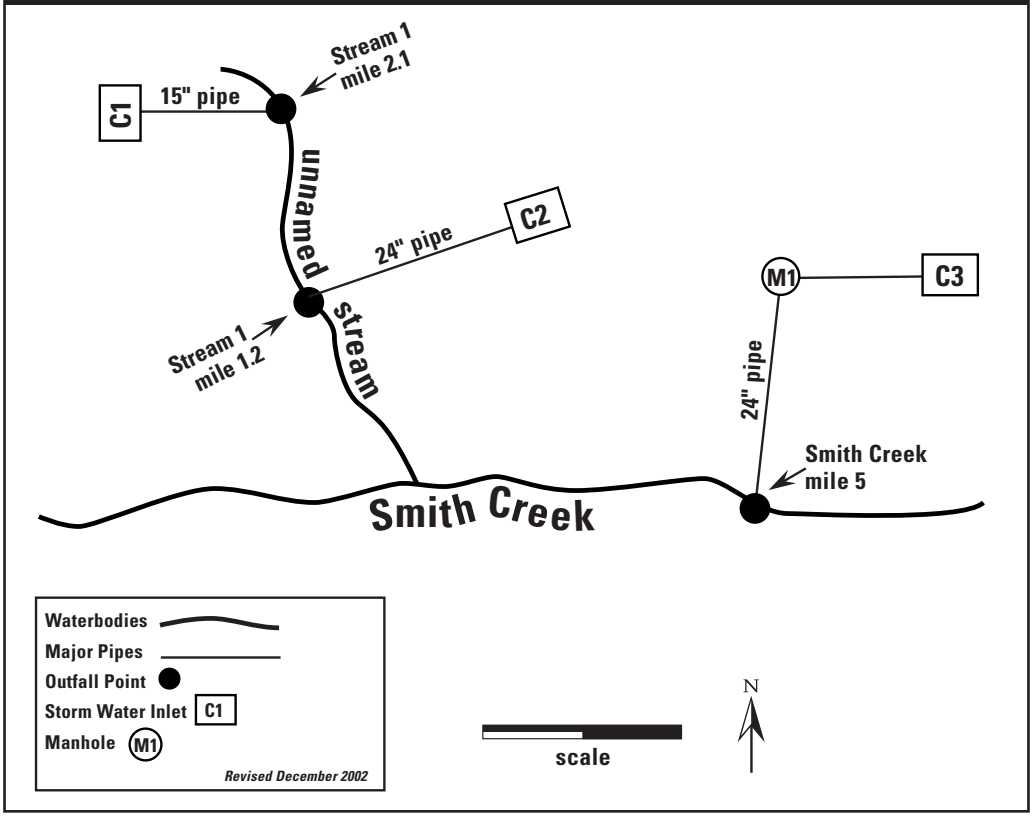
PRIORITIZING AREAS TO BE MAPPED

You may find that practical considerations will dictate the need to conduct mapping in phases. In this case, it is best to prioritize your mapping agenda. For example, older developed areas are more likely to have illicit discharges than newer areas for various reasons (e.g., many municipalities have imposed inspection requirements on new construction that help to prevent illegal connections). Therefore, if your community has limited resources, you would benefit from mapping the older areas first to ensure that priority areas are mapped.

You may find that practical considerations will dictate the need to conduct mapping in phases. In this case, it is best to prioritize your mapping agenda.

Other considerations in setting mapping priorities include land uses, reports of illicit discharges, and other information specific to each MS4. Although EPA's Phase II regulations require that only outfalls be mapped, once an illicit discharge is detected at an outfall, it may be necessary to map the portion of the storm sewer system leading to the outfall so that you are able to locate the source of the discharge. If possible, mapping the entire storm sewer system may prove very helpful to your IDDE program.

Figure 1 SAMPLE MAP



REFERENCES: CHAPTER 2

Colorado Department of Public Health and Environment, Water Quality Control Division. 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal stormwater discharge permit.* *http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html*

Massachusetts Division of Fisheries, Wildlife, and Environmental Law Enforcement. 2002. *Storm Drain Mapping Project Field Manual* (Draft). *http://www.state.ma.us/dfwele/River/pdf/rivstormdrainmanual.pdf*

Oakland County, Michigan. 2002. *Illicit Discharge Elimination Program.* *http://www.co.oakland.mi.us/drain/program_service/illicit_disch.html*

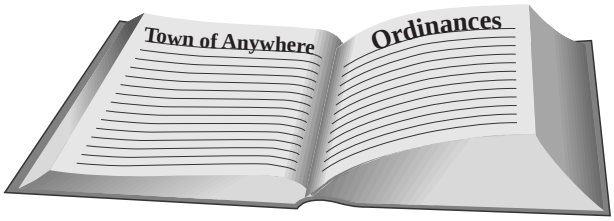
Pitt, R., M. Lalor, R. Field, D.D. Adrian, and D. Barbe. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide.* USEPA Office of Research and Development. EPA/600/R-92/238. *http://www.epa.gov/clariton*

Rohrer, C.A., and Beckley, R.J. Undated. *Using GIS Tools to Implement an Illicit Discharge Elimination Program in Livonia, Michigan.* Rouge River Demonstration Project. *http://www.rougeriver.com/proddata*

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

3 PROHIBITING ILLICIT DISCHARGES

The second mandatory element of a Phase II IDDE program requires that MS4 operators "to the extent allowable under State, Tribal, or local law, effectively prohibit through ordinance, or other regulatory mechanism, illicit discharges into the separate storm sewer system and implement appropriate enforcement procedures and actions as needed."



ILLICIT DISCHARGE ORDINANCES

As EPA's guidance specifies, a municipal ordinance created to comply with Phase II regulations must include a *prohibition* of illicit discharges and an *enforcement* mechanism. Note that it is also essential for the municipality to establish legal authority to inspect properties suspected of releasing contaminated discharges into the storm sewer system. Your municipality may already have a sewer use ordinance or similar bylaw that meets Phase II requirements, or that can be amended to meet the requirements. Consult with your town counsel and other municipal authorities to review your town's existing bylaws and regulations and determine what changes or additions are needed and what the procedure is for making those changes. If you need to make changes, you may want to review the model bylaws and other guidance discussed below.

EPA's nonpoint source pollution program Web site offers several examples of local ordinances for illicit discharges (USEPA, 2002). Appendix A of this manual presents EPA's general model ordinance, which synthesizes a number of existing municipal ordinances. In using any of these ordinances as a model, a community should take into account the legal authority granted to it under state law, the Phase II permit requirements in that state, the enforcement methods it deems appropriate, and any other locality-specific considerations.

A municipal ordinance created to comply with Phase II regulations must include a* prohibition *of illicit discharges and an* enforcement *mechanism.

A workgroup chaired by Massachusetts Department of Environmental Protection (MADEP) staff has been working on developing model bylaws that municipalities in the state can use to help them comply with Phase II regulations. The products of this group's work (model bylaws and associated guidance) are expected to be available on the MADEP Web site (see Chapter 10) by the time this manual is published. This group found that many of the available model ordinances did not fit well with the structure of Massachusetts government and, therefore, developed models that would work for towns in the state. The group also found that entry onto private property can be a tricky legal issue and should be treated carefully in any new or amended bylaws.

The Boston Water and Sewer Commission's (BWSC's) *Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains* are available on the Web (*http://*www.bwsc.org; click on "Engineering" then "Regulations") and may serve as a useful local model. The regulations specify certain conditions under which BWSC

representatives must be granted access to property; denial of access may lead to termination of water service.

Note that illicit discharges to *storm* sewers should be addressed hand-in-hand with the issue of illegal connections of extraneous water to *sanitary* sewers (typically referred to as infiltration/inflow or I/I programs); bylaws or regulations should make clear which discharges belong in which system.

REFERENCES: CHAPTER 3

BWSC. 2002. *Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains.* *http://www.bwsc.org*

Personal communication from Ginny Scarlet, MADEP, November 29, 2002.

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851.

USEPA. 2002. *Model Ordinances to Protect Local Resources: Illicit Discharges.* *http://www.epa.gov/owow/nps/ordinance/discharges.htm*

4 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: LOCATING PRIORITY AREAS

Developing and implementing a plan to detect and address illicit discharges is the third mandatory element of a Phase II IDDE program. EPA recommends that the plan include the following four components: locating priority areas; tracing the source of an illicit discharge; removing the source of an illicit discharge; and program evaluation and assessment. The first component, locating priority areas, is the subject of this chapter. Each of the other three components will be discussed in chapters five, six, and seven respectively.

THE IDDE PLAN

- ➤ **Locating priority areas**
- **Tracing the source of an illicit discharge**
- **Removing the source of an illicit discharge**
- **Program evaluation and assessment**

The process of identifying "priority areas" can be broken down into three steps:

- ➤ ***Use available information to identify potential hot spots***
- ➤ ***Conduct dry-weather field screening to look for non-storm water discharges***
- ➤ ***Conduct water quality tests to see if these non-storm water discharges seem to be illicit discharges***

The following sections focus on each of these approaches.

IDENTIFYING POSSIBLE HOT SPOTS

"Hot spots" are areas that are considered to be likely sources of illicit discharges, based on available information. The following list provides examples of potential hot spots.

Commercial/ industrial areas These areas have been found in some communities' IDDE programs to (a) have significant numbers of illicit connections and/or (b) have discharges with a high potential to affect water quality (Tuomari, 1999 and Pitt et al., 1993). Specific business sectors can be prioritized (e.g., businesses subject to waste water pretreatment rules, businesses falling under certain Standard Industrial Classification [SIC] codes, or business sectors with a record of enforcement actions).

Older areas of town Older development may predate more stringent construction codes regarding illegal connections and may have deteriorating sewer and/or storm sewer infrastructure that can lead to infiltration problems.

Hot spots
Areas that are considered to be likely sources of illicit discharges, based on available information.

Areas where there have been repeated complaints Areas where illegal dumping or apparently contaminated discharges have been reported are obvious priority targets. Geographic Information System (GIS) mapping can be useful for visualizing complaint locations. These maps can be overlain with other pertinent resource information (e.g., locations of facilities that have had compliance violations, water quality data for receiving waters).

Locations identified from ambient water quality sampling data The locations of high levels of particular contaminants (e.g., bacteria) can help to target priority outfalls. Good resources for this information are the periodic water quality assessment reports ("305(b) reports") and lists of impaired waters ("303(d) lists") that the Clean Water Act requires each state to prepare and submit to EPA. These reports are prepared by each state's environmental agency and are available to the public, often on the state's Web site. Also, local watershed groups monitor many water bodies, particularly those in more developed areas. In addition to providing sampling data, these groups can often serve as valuable resources for information about a particular water body and potential problem areas. Other possible sources of water quality data include local Boards of Health (in Massachusetts, they must test at beaches) and water districts or departments.

CONDUCTING DRY-WEATHER OUTFALL/MANHOLE SURVEYS

Once your general geographic priority areas have been determined, dry-weather surveys of outfalls and/or manholes can be undertaken to look for non-storm water flows.

EPA recommends that you make visual observations of outfalls during dry weather. Some operators have found that dry-weather manhole inspections can also be useful. The presence of flow in a storm sewer outfall or manhole during dry weather indicates a likely illicit discharge. (Other explanations for the presence of such flow include infiltrating ground water or the diversion of a surface stream into the storm sewer system.) Because illicit discharges are often intermittent, you should ideally check for discharges multiple times in a given location (particularly in a priority location). Please note that only those with confined-space training should enter a manhole or outfall. The observation and sampling strategies described below can typically be conducted without entering manholes or outfalls.

IMPORTANT NOTE:
Only those with confined-space training should enter a manhole or outfall.

In implementing your dry-weather survey, consider adopting the following strategies.

- Combine this survey with the outfall mapping field survey (see Chapter 2) and/or water quality sampling of the discharges (discussed in the next section of this chapter).
- Enlist a watershed association or other volunteer organization to help with the outfall survey.
- Notify the public that the survey will be taking place (e.g., send notices to property owners in the area). Note that while it is desirable to keep the public informed

about the presence of survey-takers to prevent undue alarm, notification may also tip off an illegal discharger to curtail discharges; use your judgment as to the most appropriate course of action. For example, you might just specify a very general time frame during which the survey will take place.

- Keep safety considerations at the forefront of survey procedures at all times. Likely hazards should be anticipated and discussed with the individuals carrying out the survey, and individuals should be instructed to use their judgment and err on the side of caution as they conduct the survey. The survey should be conducted in groups of two or more. If manholes are opened for inspection as part of the survey, staff should wear high-visibility safety vests and block off their work area with traffic cones; police presence can be helpful for safety and to allay public concerns that can be created by individuals opening manholes.

- Determine your criterion for "dry weather." The working definition of dry weather used for sampling programs can vary depending on location-specific factors. Pitt et al. (1993) suggest that storm-runoff drainage ends in most urban areas no more than 12 hours after a storm event, but many programs (e.g., Boston, NH DES, San Diego) use a longer time period, such as no rain or no more than 1/10 inch of rain in the last 48 or 72 hours.

- Observe dry-weather flows for odor, color, turbidity, and floatable matter. Observe outfalls for deposits and stains, vegetation, and damage to outfall structures. This information can help identify contaminants present in the discharge and/or the likely nature of the discharge (e.g., sanitary, industrial). Some of the resources listed in Chapter 10 provide examples of data and observation sheets to be filled out for each outfall.

- Look up some of the resources listed in the references for this chapter for more detailed instructions for conducting dry-weather field surveys (e.g., MA DFWELE, 2002).

CASE STUDY: BOSTON WATER AND SEWER COMMISSION

USING SANDBAGS TO DETECT ILLICIT DISCHARGES

The Boston Water and Sewer Commission has had success using sandbags to help detect illicit discharges. Sandbags are placed in storm drain outlets that empty into manholes and/or water bodies. The sandbags are small enough that they do not block the storm drain outlet. They must be placed in the outlet after 48 hours of dry weather (1/10 inch of rain or less). After the bag is placed in the outlet, another 48 hours of dry weather is needed (total of 96 hours of dry weather). The outlet is then observed, and any water buildup behind the sandbag is sampled. This method is very effective in narrowing down the manhole junctures that contain illicit discharges. Sandbags cost approximately $60 each and can be reused. The main difficulty in using this method is the need for 96-hour periods of dry weather.

Information from an interview with Paul Barden, Deputy Director of Engineering Services, and Charlie Jewell, Project Director, Boston Water and Sewer Commission, August 15, 2002.

CONDUCTING WATER QUALITY TESTS

When dry-weather flow is observed, visual or odor observations (e.g., observation of pieces of toilet paper, strongly colored or very muddy discharge, or the odor of sewage or chemicals) may provide enough information to determine that the discharge is illicit and to identify the likely source. If not, water quality sampling can be used to determine whether the flow is likely to have resulted from an illicit discharge.

Certain water quality parameters can serve as indicators of the likely presence or absence of a specific type of discharge. Some of these parameters can be measured in the field with probes or test kits; others must be analyzed for in the laboratory. A wide variety of water quality parameters can be measured in an IDDE program, and many references exist that describe these parameters. Some of the more commonly used and useful parameters are summarized in Table 1, which focuses on parameters suggested in Pitt et al. (1993) and the subset of those recommended in EPA's Phase II regulations.

CASE STUDY: WINOOSKI, VERMONT

USE OF OPTICAL BRIGHTENERS

The city of Winooski, Vermont has found that testing for optical brighteners is an efficient, cheap way to determine the presence of a non-storm water discharge in a particular outfall. Optical brighteners are used in laundry detergents and thus serve as a marker for household or commercial laundry discharges. These tests are extremely sensitive to the presence of detergents.

To perform an optical-brightener test, an untreated cotton pad ($9/100 pads) surrounded by a mesh bag or a suet cage is placed in a storm drain outlet, manhole, or catch basin that has been found to have dry-weather discharge and left for a certain period of time (i.e., 5-7 days). The cotton pad is then brought back to the lab and placed under a UV lamp (approximately $200) in a dark room. A blue color indicates the presence of detergents, signifying either illegal dumping, a direct illicit connection, a leaking sewer, or leakage from a failed septic system. If the test is positive for detergents, further tests need to be performed to determine the source.

Information from an interview with Tim Grover, Water Pollution Control Facility Superintendent, City of Winooski, August 9, 2002.

TABLE 1 WATER QUALITY TEST PARAMETERS AND USES

Water Quality Test	Use of Water Quality Test	Comments
Conductivity	Used as an indicator of dissolved solids	- Pitt et al. 1993 suggested parameter; EPA Phase II regulations recommended parameter - Typically measured in the field with a probe
Ammonia	High levels can be an indicator of the presence of sanitary wastewater	- Pitt et al. 1993 suggested parameter; EPA Phase II regulations recommended parameter - Used very often and equipment is readily available; Boston, MA uses a field test kit (see case example)
Surfactants	Indicate the presence of detergent (e.g., laundry, car washing)	- Pitt et al. 1993 suggested parameter; EPA Phase II regulations recommended parameter - Boston, MA uses a field test kit (see case example)
pH	Extreme pH values (low or high) may indicate commercial or industrial flows; not useful in determining the presence of sanitary wastewater (which, like uncontaminated baseflows, tends to have a neutral pH, i.e., close to 7)	- Pitt et al. 1993 suggested parameter; EPA Phase II regulations recommended parameter - Typically measured in the field or lab with a probe
Temperature	Sanitary wastewater and industrial cooling water can substantially influence outfall discharge temperatures. This measurement is most useful during cold weather.	- Pitt et al. 1993 suggested parameter - Measured in the field with a thermometer or probe
Hardness	Used to distinguish between natural and treated waters	- Pitt et al. 1993 suggested parameter
Total Chlorine	Used to indicate inflow from potable water sources; not a good indicator of sanitary wastewater because chlorine will not exist in a "free" state in water for long (it will combine with organic compounds)	- Pitt et al. 1993 suggested parameter
Fluoride	Used to indicate potable water sources in areas where water supplies are fluoridated	- Pitt et al. 1993 suggested parameter
Potassium	High levels may indicate the presence of sanitary wastewater	- Pitt et al. 1993 suggested parameter
Optical Brighteners (Fluorescence)	Used to indicate presence of laundry detergents (which often contain fabric whiteners, which cause substantial fluorescence)	-Pitt et al. 1993 suggested parameter -Used by City of Winooski, VT (see case example)
Bacteria (fecal coliform, *E. coli,* and/or *enterococci)*	Used to indicate the presence of sanitary wastewater	- Used by NHDES (see case example in chapter 5)

REFERENCES: CHAPTER 4

Clark County (WA) Public Works. 2000. *Illicit Discharge Screening Project: Annual Summary 2000.* *http://www.co.clark.wa.us/site/clean/download/2000rept.pdf*

Colorado Department of Public Health and Environment, Water Quality Control Division. October 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal storm water discharge permit.* *http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html*

Donlon, A. 2001. *2000 Coastal Illicit Connection Remediation Grant Program: Final Report.* New Hampshire Department of Environmental Services and New Hampshire Estuaries Project. R-WD-01-10. *http://www.des.state.nh.us/wmb/was/nhep2000.pdf*

Interview with Paul Barden and Charlie Jewell, BWSC, August 15, 2002.

Interview with Andrea Donlon, NHDES, July 29, 2002.

Interview with Tim Grover, City of Winooski, VT, August 9, 2002.

Jewell, C. 2001. A Systematic Methodology for Identification and Remediation of Illegal Connections. Presented at the Water Environment Federation Specialty Conference *2001 A Collection Systems Odyssey: Combining Wet Weather and O&M Solutions.* *http://www.wef.org*

Massachusetts Division of Fisheries, Wildlife, and Environmental Law Enforcement. *Storm Drain Mapping Project Field Manual* (Draft). January 2002. *www.state.ma.us/dfwele/River/pdf/rivstormdrainmanual.pdf*

North Central Texas Council of Governments. 2002. *Storm Water Management in North Central Texas: Illicit Discharge Detection and Elimination.* *http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html*

Pitt, R., M. Lalor, R. Field, D.D. Adrian, and D. Barbe. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide.* USEPA Office of Research and Development. EPA/600/R-92/238.

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance.* *http://www.projectcleanwater.org/html/model_programs.html*

Sargent, D. and W. Castonguay. 1998. *An Optical Brightener Handbook.* *http://www.mvpc.org/services_sec/mass_bays/optical_handbook.htm*

Tuomari, D. 1999. *Dos and Don'ts on Implementing a Successful Illicit Connection Program.* Rouge River Demonstration Project. *http://www.rougeriver.com/proddata*

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851.

USEPA. 2002. Storm Water Phase II Menu of BMPs - *Illicit Discharge Detection and Elimination: Identifying Illicit Connections.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_2.cfm*

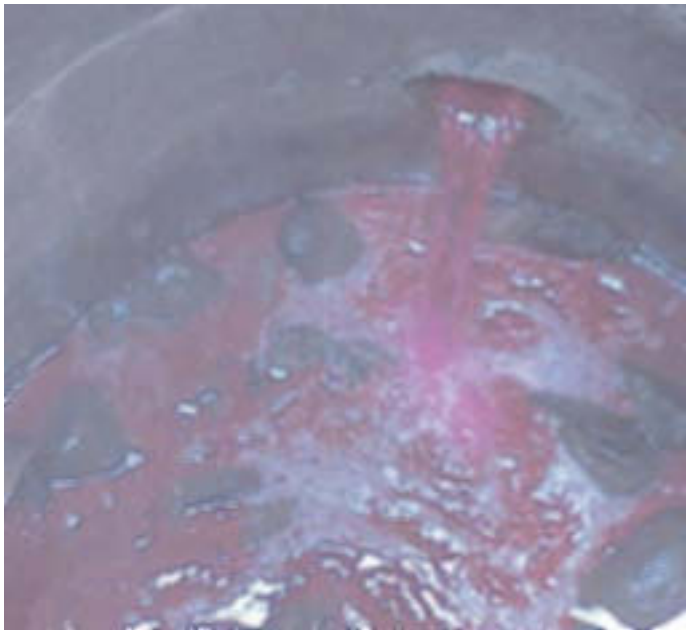
5 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: TRACING THE SOURCE OF AN ILLICIT DISCHARGE

***D**eveloping and implementing a plan to detect and address illicit discharges is the third mandatory element of a Phase II IDDE program. EPA recommends that the plan include the following four components: (1) locating priority areas; (2) tracing the source of an illicit discharge; (3) removing the source of an illicit discharge; and (4) program evaluation and assessment. The second component, tracing the source of an illicit discharge, is the subject of this chapter.*

THE IDDE PLAN

- Locating priority areas
- ➤ Tracing the source of an illicit discharge
- Removing the source of an illicit discharge
- Program evaluation and assessment

Once storm drain outlets with evidence of illicit discharges have been located, various methods can be used to pinpoint the exact source of the discharge. These techniques, many of which are already used by municipal sewer departments, include manhole observation, video inspection, smoke testing, dye testing, aerial infrared and thermal photography, and tracking illegal dumping.



MANHOLE OBSERVATIONS

A key tracing technique is to follow dry-weather flows upstream along the conveyance system to bracket the location of the source. This can be accomplished by taking the following steps:

- ➤ Consult the drainage system map.
- ➤ Check the next "upstream" manhole with a junction to see if there is evidence of discharge. You may wish to sample each manhole that has a discharge.
- ➤ Repeat these steps until a junction is found with no evidence of discharge; the discharge source is likely to be located between the junction with no evidence of discharge and the next downstream junction.
- ➤ Be aware of the surrounding areas and look for water in gutters and streets.

A key tracing technique is to follow dry-weather flows upstream along the conveyance system to bracket the location of the source.

Note that the Boston Water and Sewer Commission has had success working in the opposite direction (i.e., upstream to downstream) (Jewell 2001). Manhole observations can be time-consuming, but they are generally a necessary step before conducting other tests.

VIDEO INSPECTION

Mobile video cameras can be guided remotely through storm sewer lines to observe possible illegal connections into storm sewer systems and record observations on a videocassette or DVD. Public works staff can observe the videos and note any visible illegal connections. This technique is time-consuming and expensive but thorough and usually definitive, and it does not require the intrusion on members of the public that some of the other methods do.

SMOKE TESTING

This technique involves injecting non-toxic smoke into storm sewer lines and then noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the storm sewer lines. The injection is accomplished by placing a smoke bomb in the storm sewer manhole below ground and forcing air in after it. Smoke-generating machines can also be used. Test personnel should be stationed at points of suspected illegal connections or cracks/leaks, noting any escape of smoke (indicating an illicit connection or damaged storm sewer infrastructure). Prior to performing this test, it is necessary to inform building owners and occupants in the area in advance. It is also advisable to inform the police and fire departments.

Smoke testing involves injecting non-toxic smoke into storm sewer lines and then noting the emergence of smoke from sanitary sewer vents in illegally connected buildings or from cracks and leaks in the storm sewer lines.

For a more thorough smoke-test program, the sanitary sewer lines can also be smoked. For houses that do not emit smoke during either the sanitary sewer or the storm sewer system tests, sewer gas may be venting inside, which is hazardous. Interviews with various IDDE program staff suggest that the smoke-test method is more effective in infiltration/inflow investigations of the sanitary sewer system than in detecting illegal connections to the storm sewer system.

Smoke may cause minor irritation of respiratory passages; residents with respiratory conditions should receive special attention to determine if it is safe for them to be present for the testing. Smoke testing is typically used to survey an area all at once, in contrast to dye testing, which tests one building at a time.

DYE TESTING

This technique involves flushing non-toxic dye into toilets and sinks and observing storm sewer and sanitary sewer manholes and storm sewer outfalls for the presence of the dye. Prior to performing this test, it is necessary to inform building owners and occupants in advance and gain permission for entry. Local public health and state water quality staff should also be notified so that they will be prepared to respond to citizens calling about any dye observed in surface waters.

To perform the test, you need a crew of two or more people (ideally, all with two-way radios). One person is inside the building; the others are stationed at the appropriate storm sewer and sanitary sewer manholes (which

CASE STUDY: NEW HAMPSHIRE DEPARTMENT OF ENVIRONMENTAL SERVICES

LOCATING AND TRACING ILLICIT DISCHARGES IN NEW HAMPSHIRE COASTAL COMMUNITIES

In 1996, the New Hampshire Department of Environmental Services (NHDES) began a program of investigating and eliminating illicit connections to storm drainage systems in coastal communities to reduce bacterial contamination in coastal waters. The following excerpt from the NHDES report on the first phase of the project describes the process used to detect and trace illicit discharges.

Beginning in the summer of 1996, the coastal shorelines were surveyed by foot or canoe at low tide for potential pollution sources. All pipes, seeps, streams, and swales with flow were sampled for bacteria. In addition, temperature was measured, and observations related to the condition of the pipe (stained or structurally damaged), odor, evidence of untreated wastewater (e.g., toilet paper), turbidity, color, debris, estimated flow, and any other observations were noted. Dry pipes were rechecked on several occasions for intermittent flow. Evidence indicating the presence of wastewater and/or elevated bacteria levels prompted further investigation of these locations.

Upstream catch basins and manholes associated with the outfall pipes that were identified by the screening process were surveyed for evidence of wastewater and sampled for bacteria. Smoke testing (using non-toxic smoke blown into catch basins) was then used to identify buildings connected to the storm drainage system by canvassing the neighborhood for vents emitting smoke. Final confirmation of an illicit connection from the buildings that emitted smoke was accomplished by dye testing indoor plumbing and observing the storm drainage and sewer systems for the presence or absence of the dye.

Feeder streams were surveyed for outfall pipes with dry-weather flow. Other potential bacteriological sources (e.g., pigeon roosting sites on bridges) were bracketed with water quality sampling stations. Where contaminated seeps and swales were suspected, the drainage area was surveyed for potential sources, such as broken sewer mains.

Landry, N. 1999. Elimination of Illicit Connections in Coastal New Hampshire Spurs Cooperation and Controversy: A Final Report to the New Hampshire Estuaries Project. New Hampshire Department of Environmental Services.

should be opened) and/or outfalls. The inside person drops dye into a plumbing fixture (i.e., toilet or sink) and runs a sufficient amount of water to move the dye through the plumbing system. The inside person then radios to the outside crew that the dye has been dropped, and the outside crew watches for the dye in the storm sewer and sanitary sewer, recording the presence or absence of the dye.

The test is relatively quick (about 30 minutes per test), effective (results are usually definitive), and cheap. Dye testing is best used when the likely source of an illicit discharge has been narrowed down to a few specific houses or businesses.

AERIAL INFRARED AND THERMAL PHOTOGRAPHY

Aerial infrared and/or thermal photography can be used to locate illicit discharges from outfalls and failing septic systems using temperature and vegetation as markers. This technique requires knowledge of aerial photo interpretation. Using aerial infrared or thermal photographs, do the following:

- For outfalls
  - Note if discharge has a higher temperature than that of the stream
  - Note if algae growth is concentrated near an outfall
- For potentially failing septic systems
  - Note evidence of increased moisture in surrounding soil
  - Observe vegetation located close to the potentially failing septic system, and note any increase in vegetation compared to the surrounding area
  - Observe any increase in temperature readings at the septic system location

Aerial infrared and/or thermal photography can be used to locate illicit discharges from outfalls and failing septic systems using temperature and vegetation as markers.

This is still a developing technology and not commonly used for IDDE programs. You may still need further tests to determine specific houses/businesses with illegal connections. This technique has been used primarily for the detection of failing septic systems, which are only considered "illicit discharges" under the Phase II Storm Water program if they discharge into the storm sewer system.

TRACKING ILLEGAL DUMPING

Developing a coordinated system for collecting and tracking reports of illegal dumping can help pinpoint this difficult-to-find source of illicit discharges. Suggestions for tracking illegal dumping include the following:

- Create a hotline that can be used to report any illegal-dumping behavior (i.e., who illegally dumped and where illegal dumping occurred).
- Observe the materials that have been illegally dumped and trace the potential sources of the materials.
- Note where dumping occurs most often, record patterns of time of day and day of the week, and note common responsible parties.

Developing a coordinated system for collecting and tracking reports of illegal dumping can help pinpoint this difficult-to-find source of illicit discharges.

Challenges in addressing illegal dumping include the difficulty of catching dumpers in the act and the significant staff time needed to receive, respond to, and track complaints.

REFERENCES: CHAPTER 5

Center for Watershed Protection. *Pollution Prevention Fact Sheet: Illegal Dumping Control.* *http://www.stormwatercenter.net/Pollution_Prevention_Factsheets/IllegalDumpingControl.htm*

City of Cambridge, MA. 2002. *Cambridge Sewer and Stormwater Line Inspection and Testing Program.* *http://www.ci.cambridge.ma.us/~TheWorks/dye.html*

Jewell, C. 2001. A Systematic Methodology for Identification and Remediation of Illegal Connections. Presented at the Water Environment Federation Specialty Conference *2001 A Collection Systems Odyssey: Combining Wet Weather and O&M Solutions.* *http://www.wef.org*

Johnson, B. and D. Tuomari. 1998. *Did you know…The Impact of On-site Sewage Systems and Illicit Discharges on the Rouge River.* Rouge River Demonstration Project. *http://www.rougeriver.com/proddata*

Pierce County (WA) Public Works and Utilities. 2002. *BMP S.1: Eliminate Illicit Storm Drain Connections.* *http://www.co.pierce.wa.us/pc/services/home/environ/water/swm/sppman/bmps1.htm*

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance.* *http://www.projectcleanwater.org/html/model_programs.html*

Town of Cary, NC. 2002. *Town of Cary Smoke Test.* *http://www.townofcary.org/smoke*

Tuomari, D. 1999. *Dos and Don'ts on Implementing a Successful Illicit Connection Program.* Rouge River Demonstration Project. *http://www.rougeriver.com/proddata*

USEPA. 2002. Storm Water Phase II Menu of BMPs - *Illicit Discharge Detection and Elimination: Failing Septic Systems.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_1.cfm*

USEPA. 2002. Storm Water Phase II Menu of BMPs - *Illicit Discharge Detection and Elimination: Identifying Illicit Connections.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_2.cfm*

USEPA. 2002. Storm Water Phase II Menu of BMPs - *Illicit Discharge Detection and Elimination: Illegal Dumping.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_3.cfm*

USEPA Region 5. 1998. *Illegal Dumping Prevention Guidebook.* EPA905-B-97-001. Waste, Pesticides, and Toxics Division, Chicago, Illinois. *http://www.epa.gov/reg5rcra/wptdiv/illegal_dumping/*

This page is intentionally blank.

6 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: REMOVING THE SOURCE OF AN ILLICIT DISCHARGE

***D**eveloping and implementing a plan to detect and address illicit discharges is the third mandatory element of a Phase II IDDE program. EPA recommends that the plan include the following four components: (1) locating priority areas; (2) tracing the source of an illicit discharge; (3) removing the source of an illicit discharge; and (4) program evaluation and assessment. The third component, removing the source of an illicit discharge, is the subject of this chapter.*

THE IDDE PLAN

- Locating priority areas
- Tracing the source of an illicit discharge
- ➤ Removing the source of an illicit discharge
- Program evaluation and assessment

***B**ecause there are various sources of illicit discharges to the storm sewer system, there are different kinds of actions municipalities may have to take to remove those sources and prevent future illicit discharges. This section groups those actions into three categories: compliance assistance and enforcement for illegal connections to homes and businesses; proper construction and maintenance of MS4s; and responding to and preventing illegal dumping.*

COMPLIANCE ASSISTANCE AND ENFORCEMENT FOR ILLEGAL CONNECTIONS TO HOMES AND BUSINESSES

There is a range of ways in which municipalities may wish to handle the removal of illegal connections between homes or businesses and the storm sewer system. Enforcement measures should be spelled out in the required IDDE ordinance (see Chapter 3), but the MS4 operator will normally be allowed to use judgment about what mix of compliance assistance and enforcement actions is appropriate in a given situation. Typically, a municipality responds to the discovery of an illegal connection in a graduated manner, beginning with efforts to obtain voluntary compliance and escalating to increasingly severe enforcement actions if compliance is not obtained.

Voluntary Compliance

Often, home or business owners are not aware of the existence of illegal connections between their buildings and the storm sewer systems. In these cases, providing the responsible party with information about the connection, its environmental consequences, the applicable regulations, and how to remedy it may be enough to secure vol-

untary compliance. The cost of removing the connection and reconnecting it to the sanitary sewer system can be an obstacle. Recognizing this, some localities (e.g., Boston and coastal New Hampshire) have chosen to provide assistance with these costs, using municipal public works funds or state or federal grants.

Typically, a municipality responds to the discovery of an illegal connection in a graduated manner, beginning with efforts to obtain voluntary compliance and escalating to increasingly severe enforcement actions if compliance is not obtained.

Enforcement

EPA's model illicit discharge ordinance (Appendix A) provides an example of the enforcement steps that might be specified in a typical local ordinance. These steps are summarized below.

- The authorized enforcement agency sends the property owner a Notice of Violation (NOV), which may require the violator to take steps such as monitoring, elimination of an illicit connection or discharge, or payment of a fine.
- The person receiving the NOV may appeal it.
- If the person receiving the NOV does not appeal or loses the appeal and fails to correct the violation, the enforcement agency may "take any and all measures necessary to abate the violation and/or restore the property." The agency then may require reimbursement from the violator for the cost of the abatement, including administrative costs.
- The authorized enforcement agency also has the ability to seek an injunction against the violator "restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation."

If the municipality has not yet obtained enforcement authority (e.g., because a local ordinance has not yet been passed), it may be possible for the municipality to seek enforcement action from state or federal authorities. Involvement of state or federal

CASE STUDY: WAYNE COUNTY, MICHIGAN

ENFORCEMENT PROCEDURE

Wayne County, Michigan, began its illicit discharge detection and elimination program by targeting certain industrial and commercial facilities for site inspections—starting at the other end of the pipe from the outfall survey approach. County personnel visited the facilities, dye tested a representative number of plumbing fixtures, and observed general "housekeeping" practices.

If no violations were found, a thank you letter was sent to the facility acknowledging staff participation and closing the file. If a facility was found to have an illicit connection, a violation letter was sent, giving the facility 30 to 90 days to correct it. If a facility failed to comply with the request, the municipal plumbing inspector or building department became involved. If the municipality was not able to gain compliance, the facility was referred to the Michigan Department of Environmental Quality. When an illicit connection was eliminated, the county provided confirmation. Once a correction was confirmed, a confirmation/thank you letter was sent to facility management, thanking them for their participation and closing the file.

Information from Tuomari, D. 1999. Dos and Don'ts on Implementing a Successful Illicit Connection Program. *Technical Report of the Rouge River Demonstration Project.* ***http://www.rougeriver.com/proddata***

CASE STUDY: ST. LOUIS, MISSOURI

ENFORCEMENT PROCEDURE

The Metropolitan St. Louis Sewer District has a comprehensive ordinance regulating users who discharge into the sanitary sewer and storm sewer systems. Upon discovery of a violation of this ordinance, the Sewer District notifies the user of the nature of the violation and directs that actions be taken to remedy the noncompliance. Within 30 days of receipt of the notice, the user must submit a plan for correction of the violation to the Sewer District. If a violation is found within the house or business that appears to present an immediate danger to human health or welfare, a verbal notification is given immediately by telephone or visit, directing the user to take immediate action to discontinue or reduce the discharge to safe levels. A written notice is sent within five days of the verbal notification.

The Sewer District has the power to issue the following Administrative Orders: Cease and Desist Order (directing the user to stop the violating action), Compliance Order (directing the user take action to correct violation), Show Cause Order (directing the user to show cause why a proposed enforcement action should not be taken), and Consent Order (establishing an agreement with a user to correct a violation).

If the violator does not take action within the time allotted, the Sewer District has the right to eliminate the illicit discharge at the expense of the violator. Legal actions can be taken against, and penalties imposed on, any violator that does not comply.

Information from Metropolitan St. Louis Sewer District Ordinance No. 8472, on EPA's nonpoint source pollution Web site at ***http://www.epa.gov/owow/nps/ordinance/discharges.htm***

authorities may also be necessary if the source of an illicit discharge is located outside of the municipality's boundaries. Examples of enforcement procedures implemented in Wayne County, Michigan, and St. Louis, Missouri, are included in this section.

PROPER CONSTRUCTION AND MAINTENANCE OF MS4s

Some illicit discharge problems may be the responsibility of the MS4 operator. These problems include cross-connections between the sanitary sewer and storm sewer systems and infiltration into damaged or deteriorating storm sewer pipes.

Cross-connections between a municipality's sanitary sewer and storm sewer systems may exist by mistake, because of deterioration over time, or as part of the design in an antiquated system. Complete and accurate maps of the sewer and storm sewer systems can help identify these cross-connections and prevent them during any new construction that takes place.

Contamination can infiltrate into a cracked or leaking MS4 from leaking sanitary sewer pipes, failing septic systems, or contaminated groundwater. To help prevent this, both MS4s and sanitary sewer systems should be inspected periodically and maintained properly to keep them in good repair.

PREVENTING AND RESPONDING TO ILLEGAL DUMPING

It is often difficult to identify and locate the individuals responsible for illegal dumping; therefore, a program to address illegal dumping should focus on prevention, backed up by enforcement to the extent possible.

EPA Region 5 has prepared an *Illegal Dumping Prevention Guidebook* that suggests the following key strategies that can be used to prevent illegal dumping.

- **Site maintenance and controls** Measures should be taken to clean up areas where illegal dumping has taken place, and controls such as signs or access restrictions should be used, as appropriate, to prevent further dumping.
- **Community outreach and involvement** Outreach is the linchpin of an illegal-dumping prevention program and can include the following components:
  - Educating businesses, municipal employees, and the general public about the environmental and legal consequences of illegally disposing of waste into the storm sewer system
  - Providing and publicizing ways for citizens to properly dispose of waste
  - Providing opportunities for citizens to get involved in preventing and reporting illegal dumping
- **Targeted enforcement** This strategy should include a prohibition against illegal dumping via ordinance or another similar measure, backed up by trained law-enforcement personnel and possibly field operations.
- **Program measurement** Tracking and evaluation methods should be used to measure the impact of illegal-dumping prevention efforts and determine whether goals are being met.

Although the EPA Region 5 guidebook is targeted more to land dumping of solid waste, these strategies can also be applied to illegal dumping into the storm drain system. Some specific methods that municipalities can use to implement these strategies include the following:

- **Site maintenance and controls**
  - Storm-drain stenciling program
  - Spill-response plans for hazardous-waste spills
- **Community outreach and involvement**
  - An illegal-dumping reporting hotline
  - Outreach to business sectors that handle hazardous materials and/or have a history of illegal-dumping problems; outreach should include information on Best Management Practices for spill prevention and proper waste disposal

- Printed outreach materials for the public
- Publicizing of waste-disposal options, such as used oil recycling and household hazardous waste collections

➤ **Targeted enforcement**

- An illegal-dumping ordinance (or section of IDDE ordinance)
- Surveillance of known illegal-dumping locations
- Business facility inspections
- Training of municipal employees, police officers, and other local entities to be on lookout

➤ **Program measurement**

- Tracking of incident locations
- Compilation of statistics (e.g., annual cleanup costs, facility compliance, arrests, convictions, fines, complaints)

REFERENCES: CHAPTER 6

California Coastal Commission. 2002. *Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities.* *http://www.coastal.ca.gov/la/murp.html*

Center for Watershed Protection. *Pollution Prevention Fact Sheet: Illegal Dumping Control.* *http://www.stormwatercenter.net/Pollution_Prevention_Factsheets/IllegalDumpingControl.htm*

Interview with Paul Barden and Charlie Jewell, BWSC, August 15, 2002.

Interview with Andrea Donlon, NHDES, July 29, 2002.

North Central Texas Council of Governments. 2002. *Storm Water Management in North Central Texas: Illicit Discharge Detection and Elimination.* *http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html*

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance.* *http://www.projectcleanwater.org/html/model_programs.html*

USEPA. 1997. *Guidance Manual for Implementing Municipal Storm Water Management Programs – Volume 1: Planning and Administration* (Draft). Office of Wastewater Management and Office of Research and Development. *http://www.epa.gov/npdes/pubs/owm0233.pdf*

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

USEPA. 2002. Storm Water Phase II Menu of BMPs - *Illicit Discharge Detection and Elimination: Illegal Dumping.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/illi_3.cfm*

USEPA. 2002. *Model Ordinances to Protect Local Resources: Illicit Discharges.* *http://www.epa.gov/owow/nps/ordinance/discharges.htm*

This page is intentionally blank.

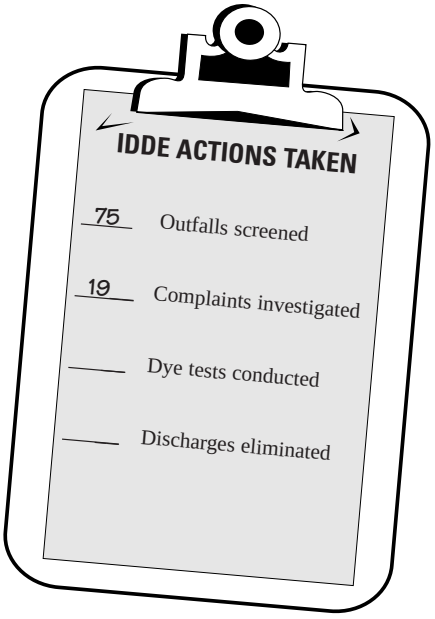
7 DEVELOPING AND IMPLEMENTING AN IDDE PLAN: EVALUATION OF THE IDDE PROGRAM

Developing and implementing a plan to detect and address illicit discharges is the third mandatory element of a Phase II IDDE program. EPA recommends that the plan include the following four components: (1) locating priority areas; (2) tracing the source of an illicit discharge; (3) removing the source of an illicit discharge; and (4) program evaluation and assessment. The fourth component, program evaluation and assessment, is the subject of this chapter.

THE IDDE PLAN

- Locating priority areas
- Tracing the source of an illicit discharge
- Removing the source of an illicit discharge
- ➤ Program evaluation and assessment

EPA recommends that the IDDE plan include procedures for program evaluation and assessment. Program evaluation is the time to step back, look at what has been done, determine what worked and what didn't, and make adjustments to planned future actions as appropriate. In this final component of your IDDE plan, you outline how you will go about evaluating your program.



EVALUATION STRATEGY

Evaluation procedures should include documentation of actions taken to locate and eliminate illicit discharges. Such documentation might include numbers of outfalls screened, complaints taken and investigated, feet of storm sewers videotaped, numbers of discharges eliminated, or number of dye or smoke tests conducted. Note that this component of the IDDE plan fits in with the overall Phase II requirements for identifying measurable goals for each Best Management Practice (BMP) and reporting on progress toward achieving those goals. (Chapter 9 discusses BMPs and measurable goals in more detail.) Annual reports are necessary during the first permit term (typically five years), and in years two and four in subsequent terms. (For more information on reporting requirements, see EPA's Fact Sheet 2.9.)

Evaluation procedures should include documentation of actions taken to locate and eliminate illicit discharges.

Determining the impact of these actions is more of a challenge, but it is an important part of the overall process because EPA allows for adjustments to the storm water management program over the life of the permit. Assessment of what worked and what didn't provides the information needed to make these adjustments to your IDDE program. EPA's Phase II regulations do not specify exactly how to evaluate your IDDE program, so check whether your permitting authority has made any particular specifications, and brainstorm from there.

Here are few suggestions for assessing the effectiveness of various IDDE strategies:

- Evaluate the number of possible illicit discharges that were detected using different detection methods. This can help you determine which detection methods are most effective.
- Evaluate the number of discharges and/or quantity of discharges eliminated using different possible enforcement and compliance measures.
- If you have access to monitoring data for receiving waters, evaluate changes in the water quality of receiving waters.
- Program evaluation might also include procedures for considering efficiency and feasibility. Questions you might want to ask include:
  - How much staff time and expense did it take to achieve a given result?
  - Were practical difficulties encountered with this approach? What were they, and how much of a problem did they present?

The strategies listed above are only suggestions. Because you are allowed a great deal of flexibility in determining what procedures you will use for program evaluation and assessment, you can decide what procedures will be most helpful in providing the information that you will need to move forward with your IDDE program.

REFERENCES: CHAPTER 7

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

USEPA. 2000. EPA Storm Water Phase II Final Rule Fact Sheet 2.9: *Permitting and Reporting: The Process and Requirements.* EPA 833-F-011. January 2000. *http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm*

USEPA New England. 2002. *NPDES General Permit for Storm Water Discharges from Regulated Small Municipal Separate Storm Sewer Systems (MS4s*) (Draft). September 27, 2002. *http://www.epa.gov/region01/npdes/ms4.html*

8 OUTREACH TO EMPLOYEES, BUSINESSES, AND THE GENERAL PUBLIC

The fourth mandatory element of an IDDE program calls for the MS4 operator to "inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste." As noted in the Introduction, the requirement for public education and outreach on storm water impacts is also one of the six minimum control measures in the storm water management program. Therefore, fulfilling the outreach requirement for IDDE helps the MS4 to comply with this mandatory element; IDDE outreach can be integrated into the broader storm water outreach program.

Some suggestions for conducting IDDE outreach to the different community sectors are presented below. Many examples of storm water outreach materials, including some that are intended to be modified and used by anyone, are available on the Web; some useful Web sites are listed in Chapter 10. Operators of regulated small MS4s may want to work together with other operators in their area in developing outreach materials and campaigns to share ideas and save money.

PUBLIC EMPLOYEES

While it is clear that public works employees should receive specific technical training on the requirements of the IDDE program and the techniques that will be used to carry it out, other municipal departments should also be targeted for training.

A training program for municipal employees on pollution prevention techniques is required under the "Pollution Prevention/Good Housekeeping for Municipal Operations" minimum control measure. Preventing non-storm water discharges into the storm sewer system from municipal operations can be one part of this training.

Many public employees can play an important role as partners in the detection and/or prevention of illicit discharges.

Many public employees can play an important role as partners in the detection and/or prevention of illicit discharges. For example, highway department staff who maintain catch basins can look for signs of illicit discharges. Municipal building inspectors can help ensure that illegal connections to the storm sewer system do not take place in construction and renovation projects. Police officers, public works employees, and other municipal staff whose jobs keep them outside and mobile can help spot illegal dumpers. Fire and police department personnel who respond to hazardous material spills can help keep these spills out of the storm sewer system and adjacent water bodies.

BUSINESSES

Most businesses are willing to comply with environmental requirements and take proactive steps to prevent pollution if they understand the issues and the possible solutions. Here are some steps you can take to reach out to businesses.

Most businesses are willing to comply with environmental requirements and take proactive steps to prevent pollution if they understand the issues and the possible solutions.

- Create a general brochure and presentation to inform businesses about the IDDE program. This information can be presented and/or made available at Chamber of Commerce meetings and other business forums.
- Conduct compliance assistance outreach (e.g., visits, group training, and/or printed materials) for specific business types (e.g., auto repair shops, mobile carpet cleaning, restaurants).
- Provide contractors and developers with information on preventing illegal connections (in coordination with training on construction and post-construction storm water requirements).

GENERAL PUBLIC

There are many ways in which the general public can be made aware of environmental issues and the things they can do to help mitigate or prevent problems. Here are some things you can do to inform and involve the public.

- Work with citizen groups to conduct storm-drain stenciling (e.g., "Don't Dump – Drains to River") and outfall surveys.
  - In conducting these activities, you should:
    - Educate the groups about their activity (either informally or via a video or other presentation)
    - Make sure volunteers understand constraints associated with storm-drain stenciling activities (e.g., heavy traffic use areas, historic districts)
    - Have volunteers sign liability forms, if necessary
  - You may also wish to:
    - Publicize the activities through the media
    - Give volunteers brochures to hand out to the public with who they interact
    - Repeat stenciling periodically (due to paint wear off), unless placards are used—stenciling on curbs lasts longer than on street surfaces
    - See Chapter 10 for information on storm-drain stenciling resources

If made aware of environmental issues, the general public can help mitigate or prevent problems.

- Create a program to promote, publicize, and facilitate public reporting of illicit connections or discharges (e.g., a hotline). Some considerations in running a hotline include:
  - Callers should be able to at least leave a message at any time of day
  - It may be helpful to have the hotline staffed during business hours
  - A system should be created for monitoring the hotline so that staff can follow up quickly on reports of discharges

  - The municipality may wish to offer a small reward for callers that provide information leading to the detection of an illicit discharge source

- Distribute (by mail and by making available at various locations and events) printed outreach materials. A general flyer about illicit discharges might include information on the following:
  - Background information on water pollution
  - A definition of what constitutes an illicit discharge
  - Measures to prevent illicit discharges
  - Information about the municipality's illicit discharge ordinance
- Create Public Service Announcements for radio and/or television.
- Work with the local access cable station and local newspapers to develop features on illicit discharge prevention.
- Create and publicize a household hazardous waste disposal/recycling program.
- Provide classroom speakers and/or printed information for schools.

REFERENCES: CHAPTER 8

Chesterfield County (VA). Undated. *Household Guide to Chesterfield County's Illicit Discharge Ordinance.* *http://www.chesterfield.gov/CommunityDevelopment/Engineering/HouseholdFactSheet.pdf*

North Central Texas Council of Governments. 2002. *Storm Water Management in North Central Texas: Illicit Discharge Detection and Elimination.* *http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html*

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

USEPA. 2000. *Storm Water Phase II Compliance Assistance Guide.* EPA 833-R-00-002. Office of Water. *http://www.epa.gov/npdes/pubs/comguide.pdf*

USEPA. 2000. EPA Storm Water Phase II Final Rule Fact Sheet 2.3: *Public Education and Outreach Minimum Control Measure.* EPA 833-F-00-005. January 2000. *http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm*

USEPA. 2000. EPA Storm Water Phase II Final Rule Fact Sheet 2.8: *Pollution Prevention/Good Housekeeping Minimum Control Measure*. EPA 833-F-00-010. January 2000. *http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm*

USEPA. 2002. Storm Water Phase II Menu of BMPs – *Public Education and Outreach on Storm Water Impacts.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/pub_ed.cfm*

USEPA. 2002. Storm Water Phase II Menu of BMPs – *Public Education and Outreach on Storm Water Impacts: Proper Disposal of Household Hazardous Wastes.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/edu_5.cfm*

This page is intentionally blank.

9 BMPS AND MEASURABLE GOALS FOR IDDE

As mentioned in the Introduction, operators of regulated small MS4s generally must submit applications for Phase II storm water general permits by March 10, 2003. As part of their application, they must identify best management practices (BMPs) that they will use to comply with each of the six minimum control measures, and the measurable goals that they will use to demonstrate BMP implementation. Within the first permit term, the operators have to fully implement their storm water management programs.

GETTING STARTED

EPA allows MS4 operators a great deal of flexibility in determining what BMPs are most appropriate for their storm water programs. The agency has developed the following materials to assist operators in identifying appropriate BMPs:

- A *National Menu of Best Management Practices for Storm Water Phase II*, which includes a toolkit of example BMPs for each of the Phase II minimum control measures (available on the Web)
- *Measurable Goals Guidance for Small MS4s*
- A *Storm Water Phase II Compliance Guide*, which offers examples of BMPs and measurable goals for each of the six minimum measures

EPA allows MS4 operators a great deal of flexibility in determining what BMPs are most appropriate for their storm water programs.

Others, including states, regional agencies, trade associations, and non-profit organizations have also developed BMP information.

A sample list of IDDE BMPs and measurable goals is presented below. This list draws from BMP and measurable goal recommendations that have been offered by EPA and others. The list has not been officially endorsed by EPA or state agencies; it is intended to serve as a starting point to help municipalities think about the BMPs and measurable goals that are appropriate to their IDDE programs. BMPs are listed in bold, followed by the measurable goals for each BMP. (The BMPs are organized according to the four elements required in an IDDE program.)

STORM SEWER MAP

- **Create a storm sewer map**
  - Map a certain percentage of outfalls (adding up to 100% by the end of the permit term) or of the area of the town

ORDINANCE

➤ Pass an illicit discharge ordinance

- Draft an IDDE ordinance (or storm water ordinance with IDDE component) or an amendment to existing bylaws
- Pass an ordinance or amendment

IDDE PLAN

➤ Prepare an IDDE plan

- Complete a final plan and obtain the signature of the person overseeing the plan

➤ Conduct dry weather field screening of outfalls

- Screen a certain percentage of outfalls (adding up to 100% by the end of the permit term)

➤ Trace the source of potential illicit discharges

- Trace the source of a certain percentage of continuous flows (adding up to 100% by the end of the permit term)
- Trace the source of a certain percentage of intermittent flows and illegal dumping reports (100% may never be an achievable goal in this case)

➤ Eliminate illicit discharges

- Eliminate a certain number of discharges and/or a certain volume of flow, or a certain percentage of discharges whose source is identified (adding up to 100% by the end of the permit term)

OUTREACH

➤ Implement and publicize a household hazardous waste collection program

- Hold a periodic (e.g., annual) hazardous waste collection day
- Mail flyers about the hazardous waste collection program to all town residences

➤ Create and distribute an informational flyer for homeowners about IDDE

- Mail the flyer to town residences
- Print the flyer as a doorknob hanger and have water-meter readers distribute it

➤ Create and distribute an informational flyer for businesses about IDDE

- Mail the flyer to targeted businesses

➤ Work with community groups to stencil storm drains

- Stencil a certain percentage of drains

➤ **Create and publicize an illicit discharge reporting hotline**

- Put the hotline in place
- Include an announcement of the hotline in sewer bills
- Follow up on all hotline reports within 48 hours

REFERENCES: CHAPTER 9

North Central Texas Council of Governments. 2002. *Storm Water Management in North Central Texas: Illicit Discharge Detection and Elimination.* *http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html*

USEPA. 1999. National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule. *Federal Register* Vol. 64 No. 235 (December 8, 1999), pp. 68722-68851. *http://www.epa.gov/npdes/regulations/phase2.pdf*

USEPA. 2000. *Storm Water Phase II Compliance Assistance Guide.* EPA 833-R-00-002. Office of Water. *http://www.epa.gov/npdes/pubs/comguide.pdf*

USEPA. 2000. EPA Storm Water Phase II Final Rule Fact Sheet 2.9: *Permitting and Reporting: The Process and Requirements.* EPA 833-F-011. January 2000. *http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm*

USEPA. 2002. *National Menu of Best Management Practices for Storm Water Phase II.* *http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm*

USEPA. 2002. *Measurable Goals Guidance for Phase II Small MS4s.* *http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm*

This page is intentionally blank.

10 RESOURCES

WEB SITES AND PUBLICATIONS

Key Information Available on EPA's Storm Water Web Site

Entry Point and General Information
http://www.epa.gov/npdes
→ click on "Storm Water"
→ click on "Municipal Separate Storm Sewer Systems" or "Phase II"

Storm Water Phase II Final Rule
http://www.epa.gov/npdes/regulations/phase2.pdf
IDDE section of the Phase II Final Rule: see section II(H)(3)(b)(iii), pp. 68756-68758.

EPA's Fact Sheet Series
http://cfpub.epa.gov/npdes/stormwater/swfinal.cfm

Overview
1.0 *Storm Water Phase II Final Rule: An Overview*

Small MS4 Program
2.0 *Small MS4 Storm Water Program Overview*
2.1 *Who's Covered? Designation and Waivers of Small Regulated MS4s*
2.2 *Urbanized Areas: Definition and Description*

Minimum Control Measures
2.3 *Public Education and Outreach*
2.4 *Public Participation/Involvement*
2.5 *Illicit Discharge Detection and Elimination*
2.6 *Construction Site Runoff Control*
2.7 *Post-Construction Runoff Control*
2.8 *Pollution Prevention/Good Housekeeping*
2.9 *Permitting and Reporting: The Process and Requirements*
2.10 *Federal and State-Operated MS4s: Program Implementation*

Construction Program
3.0 *Construction Program Overview*
3.1 *Construction Rainfall Erosivity Waiver*

Industrial "No Exposure"
4.0 *Conditional No Exposure Exclusion for Industrial Activity*

Documents
Storm Water Phase II Compliance Assistance Guide
http://www.epa.gov/npdes/pubs/comguide.pdf

National Menu of BMPs for Storm Water Phase II
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/menu.cfm

Measurable Goals Guidance for Phase II Small MS4s
http://cfpub.epa.gov/npdes/stormwater/measurablegoals/index.cfm

Storm Water Web Sites

The Rouge River National Wet Weather Demonstration Project
http://www.rougeriver.com
(See specific information on IDDE at http://www.rougeriver.com/techtop/illicit/overview.html .)

Center for Watershed Protection's Storm Water Manager's Resource Center
http://www.stormwatercenter.net

The University of Tennessee's Municipal Technical Advisory Service NPDES Phase II Storm Water Management BMP Toolkit
http://www.mtas.utk.edu/bmptoolkit.htm
The Illicit Discharge section provides a number of useful web links and downloadable PDFs.

Organization Web Sites

Water Environment Federation
http://www.wef.org

American Public Works Association
http://www.apwa.net

Local Government Environmental Assistance Network
http://www.lgean.org

Center for Watershed Protection
http://www.cwp.org

The Boston Water and Sewer Commission
(the Web site includes the BWSC's regulations, outreach information, and other useful items)
http://www.bwsc.org

Storm Water Manuals

California Coastal Commission. 2002. *Model Urban Runoff Program: A How-To Guide for Developing Urban Runoff Programs for Small Municipalities.* *http://www.coastal.ca.gov/la/murp.html*

Colorado Department of Public Health and Environment, Water Quality Control Division. October 2001. *Colorado's Phase II Municipal Guidance: A guide to application requirements and program development for coverage under Colorado's Phase II municipal stormwater discharge permit.*
http://www.cdphe.state.co.us/wq/PermitsUnit/wqcdpmt.html

IDDE Manuals

San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program. 2001. *Illicit Connection/Illicit Discharge (IC/ID) Detection and Elimination Model Program Guidance.*
http://www.projectcleanwater.org/html/model_programs.html

Pitt, R., M. Lalor, R. Field, D.D. Adrian, and D. Barbe. 1993. *Investigation of Inappropriate Pollutant Entries into Storm Drainage Systems: A User's Guide.* USEPA Office of Research and Development. EPA/600/R-92/238. (Available on the Web via EPA's National Environmental Publications Information System, *http://www.epa.gov/clariton*.)

North Central Texas Council of Governments. 2002. *Storm Water Management in North Central Texas: Illicit Discharge Detection and Elimination.*
http://www.dfwstormwater.com/Storm_Water_BMPs/illicit.html

Information on Specific Topics

Ordinances

USEPA's Model Ordinances to Protect Local Resources: Illicit Discharges.
http://www.epa.gov/owow/nps/ordinance/discharges.htm
(The same information can be found at *http://www.stormwatercenter.net.*)

Boston Water and Sewer Commission's *Regulations Governing the Use of Sanitary and Combined Sewers and Storm Drains. http://www.bwsc.org*

The Massachusetts Citizen Planner Training Collaborative offers "Tips on Drafting Bylaws" for Massachusetts municipalities: *http://www.umass.edu/masscptc/Tips_on_Drafting.html*

Optical Brighteners

Sargent, D. and W. Castonguay. 1998. *An Optical Brightener Handbook.* Available at:
http://www.mvpc.org/services_sec/mass_bays/optical_handbook.htm and
http://www.naturecompass.org/8tb/sampling/

Dye Testing

Dye supplier used by a reviewer of this manual: NORLAB, Inc., Amherst, OH. 1-800-247-9422;
http://www.norlabdyes.com

Smoke Testing

Smoke testing equipment supplier used by a reviewer of this manual: Hurco Technologies, Inc., 1-800-888-1436;
http://www.hurcotech.com

Outfall/Manhole Surveys

Massachusetts Division of Fisheries, Wildlife, and Environmental Law Enforcement. Storm Drain Mapping Project Field Manual (Draft). January 2002. *http://www.state.ma.us/dfwele/River/pdf/rivstormdrainmanual.pdf*

Jewell, C. 2001. A Systematic Methodology for Identification and Remediation of Illegal Connections. Presented at the Water Environment Federation Specialty Conference *2001 A Collection Systems Odyssey: Combining Wet Weather and O&M Solutions.* (Available for purchase via the WEF Web site, *http://www.wef.org*.)

Outreach

- **Household Hazardous Waste Collection**
  Household hazardous waste collection days in New Hampshire can be viewed online at *http://www.des.state.nh.us/hhw/hhwevent.htm.*

  Environmental Depot, Burlington VT. *http://www.cswd.net/facilities/hazardous_waste.shtml*

- **Storm-Drain Stenciling**
  Earthwater Stencils, an organization that does storm drain stenciling: *http://www.earthwater-stencils.com/*

  The Ocean Conservancy's Storm Drain Sentries program has a goal of having volunteers stencil one million storm drains with educational pollution prevention messages. The Ocean Conservancy supplies volunteers with a fact sheet about nonpoint source pollution, tips on conducting a stenciling project, and stencils for volunteer organizations to use. In return, stenciling project leaders are asked to submit data about the number of storm drains they stenciled, the types of pollutants found near the storm drains, and potential pollutant sources. This information is added to a growing database maintained by the Ocean Conservancy. Contact the Ocean Conservancy's Office of Pollution Prevention and Monitoring at 757-496-0920 or *stormdrain@oceanconservancyva.org.*
  http://www.oceanconservancy.org/dynamic/getInvolved/events/sentries/sentries.htm

  Resources for storm drain stenciling programs in New Hampshire:

  - Coordinated by Julia Peterson of UNH-Cooperative Extension in the coastal watershed *http://ceinfo.unh.edu/Common/Documents/gsc5401.htm*. Also described at *http://www.seagrant.unh.edu/extension.htm*
  - Coordinated by the NH Coastal Program (part of the Office of State Planning) *http://www.state.nh.us/coastal/CoastalEducation/marinedebris.htm*
  - Description of Manchester's storm drain stenciling on EPA's Web site describing the SEPP *http://www.epa.gov/region1/eco/csoman/sepp.html* (See #1 and #6)

- **Outreach Materials**
  EPA is preparing educational materials on different water topics each month as part of the year-long celebration of the 30th anniversary of the Clean Water Act. April 2003 will be Storm Water Month. The public education kit is expected to include:

  - General Storm Water Awareness brochure
  - Homeowner Guide (car washing, vehicle fluids changing, lawn & garden care, pet waste, septic system management)
  - Small Construction Guide poster
  - Press release
  - Public service announcement for the radio
  - Stickers
  - Door hanger with illicit discharge message
  - PowerPoint presentation

  These items will be available for download or order on EPA's Year of Clean Water Web site, *http://www.epa.gov/water/yearofcleanwater/month.html*. Before the materials are available on the Web site, you can contact EPA's contractor, TetraTech, to be on the mailing list for the materials.
  Email Kathryn Phillips at *tetratech1@earthlink.net* or *kathryn.phillips@tetratech-ffx.com.*

CONTACTS

USEPA-New England is the NPDES permitting authority for Massachusetts and New Hampshire. The other five NEIWPCC member states serve as NPDES permitting authorities for the storm water program. Contact information below was taken from the EPA-New England Web site *http://www.epa.gov/region01/npdes/stormwater/administration.html*, the EPA NPDES Web site *http://www.epa.gov/npdes*, and the New York State Department of Environmental Conservation Web site *http://www.dec.state.ny.us*.

U.S. EPA

EPA Region 1, New England
Regional Storm Water Coordinator
Thelma Murphy 617-918-1615; *murphy.thelma@epa.gov*

Regional Storm Water Assistance Team
Ann Herrick 617-918-1560; *herrick.ann@epa.gov*
Shelly Puleo 617-918-1545; *puleo.shelly@epa.gov*
Olga Vergara 617-918-1519, *vergara.olga@epa.gov*

Massachusetts Assistance
Dave Gray 617-918-1577; *gray.davidj@epa.gov*

EPA Region 2
Regional Storm Water Coordinator
Karen O'Brien 212-637-3717; *obrien.karen@epa.gov*

STATES

Connecticut
Connecticut Department of Environmental Protection
Bureau of Water Management
Permitting, Enforcement, and Remediation Division
http://www.dep.state.ct.us

Contact: Chris Stone 860-424-3850; *chris.stone@po.state.ct.us*

Maine
Maine Department of Environmental Protection
Bureau of Land and Water Quality
http://www.state.me.us/dep/blwq/stormwtr/index.htm

Contact: David Ladd 207-287-5404; *david.ladd@state.me.us*

Massachusetts
Massachusetts Department of Environmental Protection
Division of Watershed Management
http://www.state.ma.us/dep/brp/stormwtr/stormhom.htm

Contacts: Ginny Scarlet 508-767-2797; *ginny.scarlet@state.ma.us*
Linda Domizio 508-849-4005; *linda.domizio@state.ma.us*

New Hampshire
New Hampshire Department of Environmental Services
Storm Water Fact Sheet: *http://www.des.state.nh.us/factsheets/wwt/web-8.htm*
Storm Water Web Site: *http://www.des.state.nh.us/StormWater*
Contacts: Jeff Andrews 603-271-2984
Public Information and Permitting Office 603-271-2975

New York
New York State Department of Environmental Conservation
Division of Water
http://www.dec.state.ny.us/website/dow/mainpage.htm
Contact: Mike Rafferty 518-402-8094; *mrraffer@gw.dec.state.ny.us*

Rhode Island
Rhode Island Department of Environmental Management
Water Resources – Permitting
http://www.state.ri.us/dem/programs/benviron/water/permits/ripdes/stwater/index.htm
Contacts: Margarita Chatterton 401-222-4700 x7605; *mchatter@dem.state.ri.us*
Greg Goblick 401-222-4700 x7265; *ggoblick@dem.state.ri.us*

Vermont
Vermont Department of Environmental Conservation
Water Quality Division
http://www.anr.state.vt.us/dec/waterq/stormwater.htm
Contact: Peter LaFlamme 802-241-3765; *petel@dec.anr.state.vt.us*

APPENDIX A

Model Illicit Discharge and Connection Stormwater Ordinance[1]

ORDINANCE NO. _____

SECTION 1. PURPOSE/INTENT.

The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of (_____) through the regulation of non-storm water discharges to the storm drainage system to the maximum extent practicable as required by federal and state law. This ordinance establishes methods for controlling the introduction of pollutants into the municipal separate storm sewer system (MS4) in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this ordinance are:

1)To regulate the contribution of pollutants to the municipal separate storm sewer system (MS4) by stormwater discharges by any user

(2) To prohibit Illicit Connections and Discharges to the municipal separate storm sewer system

(3) To establish legal authority to carry out all inspection, surveillance and monitoring procedures necessary to ensure compliance with this ordinance

SECTION 2. DEFINITIONS.

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency: employees or designees of the director of the municipal agency designated to enforce this ordinance.

Best Management Practices (BMPs): schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity. Activities subject to NPDES Construction Permits. Currently these include construction projects resulting in land disturbance of 5 acres or more. Beginning in March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section X of this ordinance.

Illicit Connections. An illicit connection is defined as either of the following:

---

[1] USEPA. 2002. *Model Ordinances to Protect Local Resources: Illicit Discharges.* http://www.epa.gov/owow/nps/ordinance/discharges.htm

Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or,
Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.
Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).
National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. means a permit issued by EPA (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.
Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.
Person. means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.
Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.
Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.
Storm Drainage System. Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.
Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.
Stormwater Pollution Prevention Plan. A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.
Wastewater means any water or other liquid, other than uncontaminated storm water, discharged from a facility.

SECTION 3. APPLICABILITY.
This ordinance shall apply to all water entering the storm drain system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

SECTION 4. RESPONSIBILITY FOR ADMINISTRATION.
The_____ [authorized enforcement agency] shall administer, implement, and enforce the provisions of this ordinance. Any powers granted or duties imposed upon the authorized enforcement agency may be delegated in writing by the Director of the authorized enforcement agency to persons or entities acting in the beneficial interest of or in the employ of the agency.

SECTION 5. SEVERABILITY.
The provisions of this ordinance are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Ordinance or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Ordinance.

SECTION 6. ULTIMATE RESPONSIBILITY.

The standards set forth herein and promulgated pursuant to this ordinance are minimum standards; therefore this ordinance does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

SECTION 7. DISCHARGE PROHIBITIONS.

Prohibition of Illegal Discharges.

No person shall discharge or cause to be discharged into the municipal storm drain system or watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards, other than storm water.

The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:

(1) The following discharges are exempt from discharge prohibitions established by this ordinance: water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated - typically less than one PPM chlorine), fire fighting activities, and any other water source not containing Pollutants.

(2) Discharges specified in writing by the authorized enforcement agency as being necessary to protect public health and safety.

(3) Dye testing is an allowable discharge, but requires a verbal notification to the authorized enforcement agency prior to the time of the test.

(4) The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted for any discharge to the storm drain system.

Prohibition of Illicit Connections.

(1) The construction, use, maintenance or continued existence of illicit connections to the storm drain system is prohibited.

(2) This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(3) A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

SECTION 8. SUSPENSION OF MS4 ACCESS.

Suspension due to Illicit Discharges in Emergency Situations

The _____ [authorized enforcement agency] may, without prior notice, suspend MS4 discharge access to a person when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the MS4 or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the authorized enforcement agency may take such steps as deemed necessary to prevent or minimize damage to the MS4 or Waters of the United States, or to minimize danger to persons.

Suspension due to the Detection of Illicit Discharge

Any person discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such

termination would abate or reduce an illicit discharge. The authorized enforcement agency will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement agency for a reconsideration and hearing.

A person commits an offense if the person reinstates MS4 access to premises terminated pursuant to this Section, without the prior approval of the authorized enforcement agency.

SECTION 9. INDUSTRIAL OR CONSTRUCTION ACTIVITY DISCHARGES.

Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the _____ [authorized enforcement agency] prior to the allowing of discharges to the MS4.

SECTION 10. MONITORING OF DISCHARGES.

1. Applicability.
   This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

2. Access to Facilities.

(1) The_____ [authorized enforcement agency] shall be permitted to enter and inspect facilities subject to regulation under this ordinance as often as may be necessary to determine compliance with this ordinance. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the authorized enforcement agency.

(3) Facility operators shall allow the _____[authorized enforcement agency] ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of an NPDES permit to discharge storm water, and the performance of any additional duties as defined by state and federal law.

(3) The _____ [authorized enforcement agency] shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the authorized enforcement agency to conduct monitoring and/or sampling of the facility's storm water discharge.

(4) The _____ [authorized enforcement agency] has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.

(5) Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the [authorized enforcement agency] and shall not be replaced. The costs of clearing such access shall be borne by the operator.

(6) Unreasonable delays in allowing the _____ [authorized enforcement agency] access to a permitted facility is a violation of a storm water discharge permit and of this ordinance. A person who is the operator of a facility with a NPDES permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement agency reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this ordinance.

(7) If the _____ [authorized enforcement agency] has been refused access to any part of the premises from which stormwater is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this ordinance or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the authorized enforcement agency may seek issuance of a search warrant from any court of competent jurisdiction.

SECTION 11. REQUIREMENT TO PREVENT, CONTROL, AND REDUCE STORM WATER POLLUTANTS BY THE USE OF BEST MANAGEMENT PRACTICES.

[Authorized enforcement agency] will adopt requirements identifying Best Management Practices for any activity, operation, or facility which may cause or contribute to pollution or contamination of storm water, the storm drain system, or waters of the U.S. The owner or operator of a commercial or industrial establishment shall provide, at their own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drain system or watercourses through the use of these structural and non-structural BMPs. Further, any person responsible for a property or premise, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal separate storm sewer system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a stormwater pollution prevention plan (SWPP) as necessary for compliance with requirements of the NPDES permit.

SECTION 12. WATERCOURSE PROTECTION.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

SECTION 13. NOTIFICATION OF SPILLS.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the storm drain system, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the authorized enforcement agency in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the _____ [authorized enforcement agency] within three business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

SECTION 14. ENFORCEMENT.

1. Notice of Violation.
   Whenever the _____ [authorized enforcement agency] finds that a

person has violated a prohibition or failed to meet a requirement of this Ordinance, the authorized enforcement agency may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:
(a) The performance of monitoring, analyses, and reporting;
(b) The elimination of illicit connections or discharges;
(c) That violating discharges, practices, or operations shall cease and desist;
(d) The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and
(e) Payment of a fine to cover administrative and remediation costs; and
(f) The implementation of source control or treatment BMPs.
If abatement of a violation and/or restoration of affected property is required, the notice shall set forth a deadline within which such remediation or restoration must be completed. Said notice shall further advise that, should the violator fail to remediate or restore within the established deadline, the work will be done by a designated governmental agency or a contractor and the expense thereof shall be charged to the violator.

SECTION 15. APPEAL OF NOTICE OF VIOLATION.
Any person receiving a Notice of Violation may appeal the determination of the authorized enforcement agency. The notice of appeal must be received within _ days from the date of the Notice of Violation. Hearing on the appeal before the appropriate authority or his/her designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the municipal authority or their designee shall be final.

SECTION 16. ENFORCEMENT MEASURES AFTER APPEAL.
If the violation has not been corrected pursuant to the requirements set forth in the Notice of Violation, or , in the event of an appeal, within __ days of the decision of the municipal authority upholding the decision of the authorized enforcement agency, then representatives of the authorized enforcement agency shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the government agency or designated contractor to enter upon the premises for the purposes set forth above.

SECTION 17. COST OF ABATEMENT OF THE VIOLATION.
Within __ days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within __ days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment.
Any person violating any of the provisions of this article shall become liable to the city by reason of such violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of __ percent per annum shall be assessed on the balance beginning on the _st day following discovery of the violation.

SECTION 18. INJUNCTIVE RELIEF.
It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

SECTION 19. COMPENSATORY ACTION.
In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, creek cleanup, etc.

SECTION 20. VIOLATIONS DEEMED A PUBLIC NUISANCE.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

SECTION 21. CRIMINAL PROSECUTION.

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of _____ dollars per violation per day and/or imprisonment for a period of time not to exceed ____ days.

The authorized enforcement agency may recover all attorney's fees court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

SECTION 22. REMEDIES NOT EXCLUSIVE.

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

SECTION 23. ADOPTION OF ORDINANCE.

This ordinance shall be in full force and effect __ days after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed.

PASSED AND ADOPTED this ____ day of _____, 19__, by the following vote:

APPENDIX H

IDDE Employee Training Record

Stoughton DPW - IDE Training 8/28/23

Attendees

John Bolio
Matt Bobbitt
Jon Cook
Mike Ferreira
Bob Dupont.

ENVIRONMENTAL PARTNERS

— An Apex Company —

1900 Crown Colony Drive, Suite 402

Quincy, MA 02169

P: 617.657.0200 F: 617.657.0201

envpartners.com

APPENDIX M

Stormwater Pollution Prevention Plans (SWPPPs)

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: April 6, 2023

Mr. Paul Giffune

Town of Stoughton Public Works Department
950 Central St
Stoughton, MA 02072

RE: **NPDES Phase II Stormwater Assistance**
Pollution Prevention & Good Housekeeping for Municipal Operations
Winter FY23 Department of Public Works SWPPP Observations

Dear Mr. Giffune,

In order to fulfill the requirements of the 2016 National Pollution Discharge Elimination System (NPDES) Stormwater General Permit, Environmental Partners, LLC (EP) conducted observations of all Town-owned facilities that maintain a Stormwater Pollution Prevention Plan (SWPPP). These facilities require a quarterly observation, in accordance with Section 2.3.7.b.iii of the Stormwater General Permit.

On March 16, 2023, EP visited the Department of Public Works, the one Town-owned facility that requires SWPPP observations. This was the MS4 Permit Year Five Winter site visit. This visit occurred during dry weather conditions.

The SWPPP observations included touring the buildings and grounds of the DPW garage, observing all storage stockpiles, material loading areas, fueling stations, equipment operation and maintenance areas, vehicle washing areas, salt piles, areas of erosion, and waste handling and disposal areas. In addition, Structural Control Measures, such as catch basins, BMPs, and inlet/outlets, were observed and determined to be effectively operating or in need of maintenance or replacement. Observations were recorded and photographs taken, which have been attached to this report.

The observations of the Department of Public Works found the facility is generally in compliance with respect to the Pollution Prevention and Good Housekeeping minimum control measures of the Stormwater General Permit. The only areas that require attention are described below:

- All leaching basins have sand/silt that is limiting infiltration and should be cleaned. Catch basin CB-3018 (as shown on the attached Site Map) had standing water at a higher elevation than the downstream leaching manholes. Therefore, the pipe exiting these catch basins may

have a blockage preventing stormwater from exiting the catch basins. The Town should consider cleaning these catch basins and pipes connecting catch basin to leaching manhole.

- Areas of ponding were observed on various parts of the pavement across the property. The Town should monitor this issue and consider regrading and repaving areas with significant ponding.
- Ponding was noted around, manholes, MH-1776, MH-2505, and catch basin, CB-3017, where the pavement around the covers and grate had slightly subsided. The Town should monitor this issue and consider regarding the areas.
- Sand was observed eroding from a stockpile onto pavement in the rear of facility. EP recommends the sand stockpiles be better contained. It is understood that this area is frequently swept.
- Paint buckets and batteries were found sitting on the ground within the DPW's storage garage and maintenance facility, respectively. It is recommended that these items be stored on pallets to further prevent any accidental spillage into the stormwater system.
- The trench drains within the maintenance facility are filled with debris; to ensure proper drainage, routine cleaning is recommended.

Since the last observation event, the erosion at the parking lot improved. Regular upkeep within the DPW facility is recommended. Corrective actions taken in response to these observation findings should be documented in writing by the facility, with a copy kept on file with other Stormwater General Permit compliance documentation. A new catch basin that was not previously mapped to be draining to the DPW facility's drainage system was identified. The catch basin is located upstream of catch basin CB-3019 and has been tentatively labelled CB-3020.

The next SWPPP observation should occur in Spring of FY23 (between April and June 2023). Please do not hesitate to email or call us if you have any questions or require any additional information.

Sincerely,

Environmental Partners Group, LLC
Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning
P: 617.657.0280
E: sdt@envpartners.com

Environmental Partners Group, LLC
Karen N.Chan
Project Scientist
P: 617.657.0271
E: knc@envpartners.com

Attachments

Certification Page
DPW Garage Site Visit Observation Report
DPW Garage Site Map
DPW Garage Site Visit Photos

ENVIRONMENTAL PARTNERS
— An Apex Company —

CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name _____

Signature _____ Date _____

DPW Garage Stormwater Site Observation Report

General Information			
Facility Name	Stoughton DPW		
Date of Site Visit	03/16/2023	**Start/End Time**	9:00 am-12:45 pm
Field Staff's Name(s)	Karen N. Chan		
Field Staff 's Title(s)	Project Scientist		
Field Staff 's Contact Information	knc@envpartners.com		
Field Staff 's Qualifications	B.S. in Civil/Environmental Engineering, MS4 Consultant		

Weather Information

Weather at time of this site visit?
☒ Clear ❑Cloudy ❑Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds
❑ Other: Temperature: 50s

Have any previously unidentified discharges of pollutants occurred since the last visit? ❑Yes ☒No
If yes, describe: N/A

Are there any discharges occurring at the time of site visit? ❑Yes ☒No
If yes, describe:

Structural Control Measures

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1	CB-3013	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	The structure was dry.
2	CB-3014	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. **Cleaning of outlet pipe is suggested.**
3	CB-3015	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. **Cleaning of outlet pipe is suggested.**
4	CB-3016	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. **Cleaning of outlet pipe is suggested.**
5	CB-3017	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	The pavement around the structure has slightly depressed, leading to ponding during wet weather.
6	CB-3018	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. **Cleaning of outlet pipe is suggested.**

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
7	CB-3019	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Murky water observed in structure. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
8	CB-3020 (NEW)	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Structure is located upstream of catch basin, CB-3019 and was not previously mapped. The catch basin drains to catch basin, CB-3019, via an 8" polychloride (PVC) pipe. Murky water was observed in the structure.
9	CB-3021	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Murky water was observed in the structure. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
10	MH-2503	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	Murky water with an oil sheen was observed within the structure. Due to the murkiness of the water, the water within the structure was sampled. The sample was relatively clear; however, silt/sand build-up may still be present. **Cleaning is recommended.** The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
11	MH-2504, leaching	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Structure was full of water and may not be draining properly. The bottom of the structure was murky, suggesting silt/sand build-up. **Cleaning is recommended.**
12	MH-1780, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	The structure was opened and observed to be dry. Catch basin, CB-3018, located upstream, is not draining properly to the structure. **Cleaning is recommended.**
13	MH-1776, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	The pipe from the upstream catch basin is unobstructed. Sand was observed. **Cleaning is recommended.**

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
14	MH-2505, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	Structure was full of water and may not be draining properly. Due to the high-water level, the outgoing and incoming pipes could not be located. Sand was observed and the bottom of the manhole was murky. Due to the murkiness of the water, the water within the structure was sampled. The sample was relatively clear; however, silt/sand build-up may still be present. **Cleaning is recommended**
15	MH-1777, leaching	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Minimal sand and some trash was observed This structure only receives roof drainage. No immediate cleaning needed.

Areas of Materials or Activities exposed to stormwater

	Area/Activity	Observed?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	**Material loading/unloading and storage areas**	☒Yes ❑No ❑ N/A	☒Yes ❑No	
2	**Equipment operations and maintenance areas**	☒Yes ❑No ❑ N/A	☒Yes ❑No	
3	**Fueling areas**	☒Yes ❑No ❑ N/A	☒Yes ❑No	
4	**Outdoor vehicle and equipment washing areas**	☒Yes ❑No ❑ N/A	☒Yes ❑No	
5	**Waste handling and disposal areas**	☒Yes ❑No ❑ N/A	☒Yes ❑No	Dumpster is covered.
6	**Erodible areas/construction**	❑Yes ❑No ☒ N/A	❑Yes ❑No	
7	**Non-stormwater/ illicit connections**	❑Yes ❑No ☒ N/A	❑Yes ❑No	
8	**Salt storage piles or pile containing salt**	☒Yes ❑No ❑ N/A	☒Yes ❑No	Sand and salt piles should be swept regularly.
9	**Dust generation and vehicle tracking**	☒Yes ❑No ❑ N/A	☒Yes ❑No	

Non-Compliance

No non-compliance issues.

Additional Control Measures

All leaching basins/manholes (aside from MH-1777 which only receives roof drainage) should be cleaned. Catch basin CB-3018 had standing water at a higher elevation than the downstream leaching manhole. Therefore, the pipe exiting this catch basin may have a blockage, preventing stormwater from exiting the catch basins. The Town should consider cleaning this catch basin and pipes connecting catch basin to leaching manhole.

Areas of ponding were observed on various parts of the pavement across the property. The Town should monitor this issue and consider repaving and regrading areas that have significant ponding during wet weather.

Ponding was noted around, manholes, MH-1776, MH-2505, and catch basin, CB-3017, where the pavement around the covers and grate had slightly subsided. The Town should monitor this issue and consider regarding the areas.

Sand was observed eroding from a stockpile onto pavement in the rear of facility. We recommend the sand stockpiles be better contained. It is understood that this area is frequently swept.

Paint buckets and batteries were found sitting on the ground within the DPW's storage garage and maintenance facility, respectively. It is recommended that these items be stored on pallets to further prevent any accidental spillage into the stormwater system.

The trench drains within the maintenance facility are filled with debris; to ensure proper drainage, routine cleaning is recommended.

Notes

The Town is currently in the process of designing two stormwater BMP retrofits at this property. These retrofits will greatly improve water quality.

Print observer's name and title: Karen N. Chan, Project Scientist

Signature: Karen Chan **Date:** 03/29/2023

ENVIRONMENTAL PARTNERS
— An Apex Company —

DPW Garage Site Map

Stoughton, Massachusetts

0 40 80 160 Feet

DPW Garage Site Visit Photos

Catch basin located upstream of CB-3019 (previously unmapped). Tentatively labelled CB-3020.

Ponding observed; regrading the pavement around structure recommended.

Ponding observed; regarding the pavement around structure recommended.

MH-2505--interior photo; sampled. Could not locate outgoing or incoming pipes due to high water level.

Slight ponding observed; regarding the pavement around structure recommended.

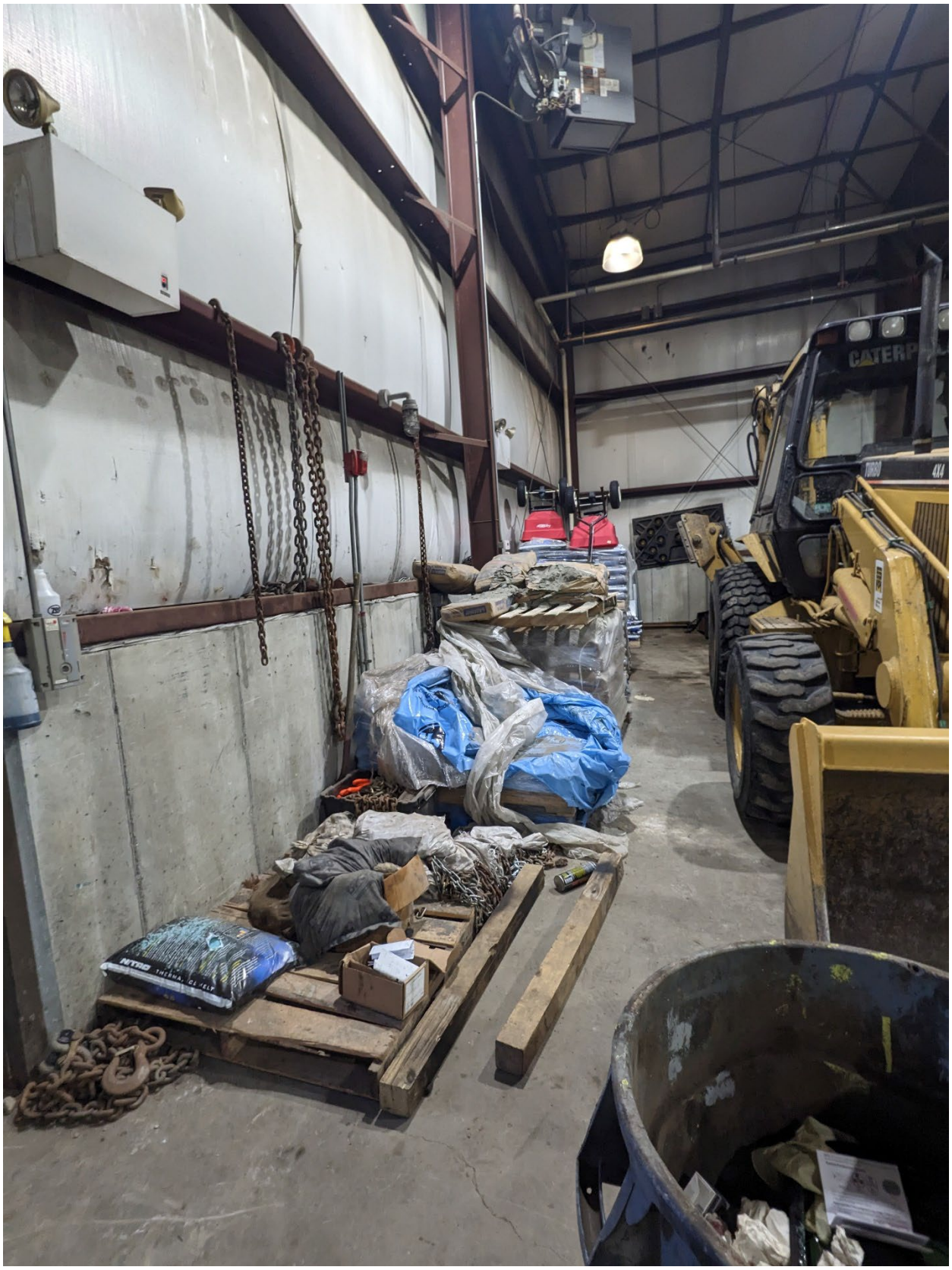
Sand stockpile; recommend sweeping sand around area.

Pleasant
Rentals

BrineXtreme PRO
Henderson
Henderson
BrineXtreme
ADVANTAGE

Storm drain located within storage garage.

Oil staining from plow trucks.



Paint buckets located within storage garage; recommend placing them on pallets to prevent any accidental spillage.

KEEP
STOUGHTON
CLEAN
LEACH
STOUGHTON
R.M.D.
25
MACK

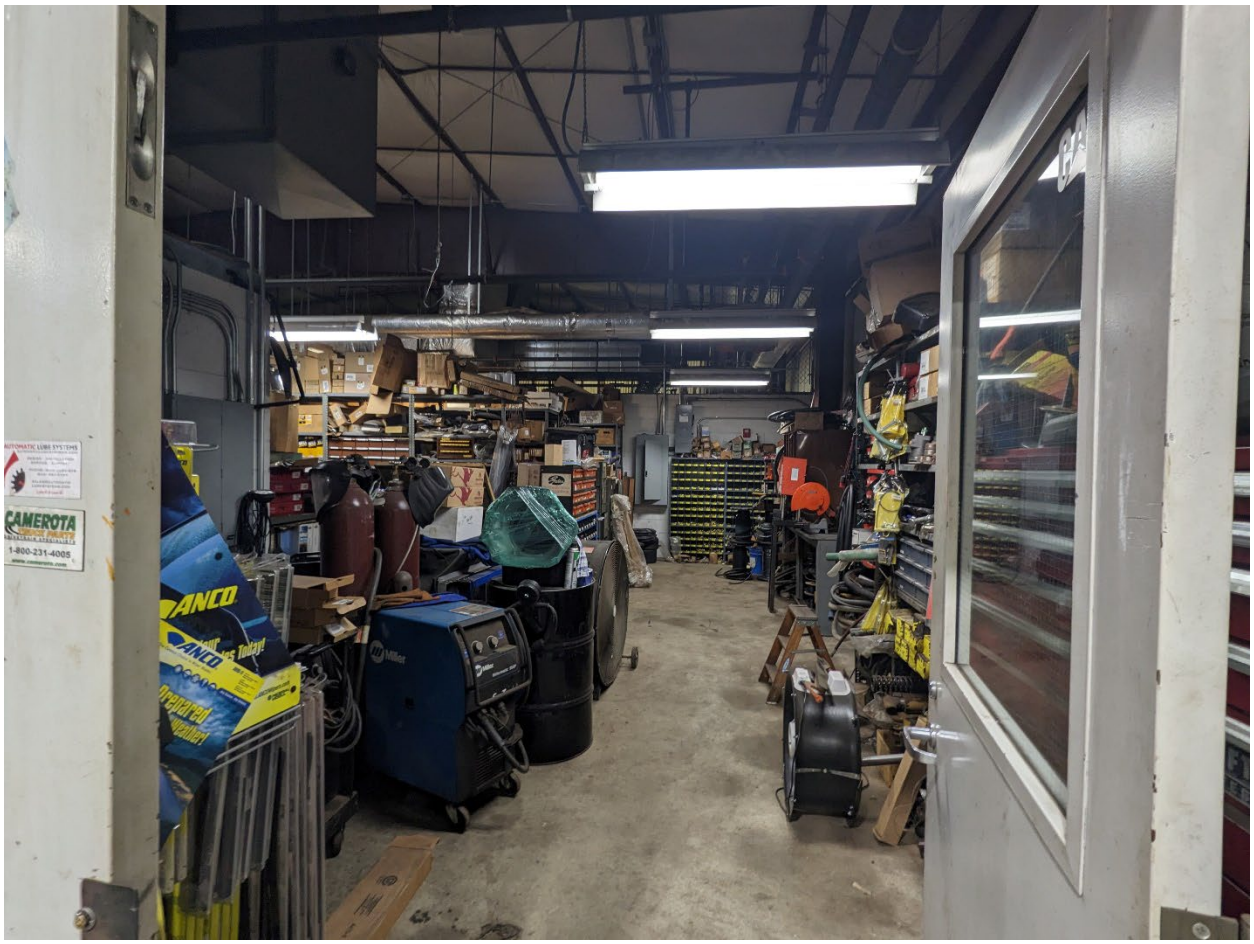
Minor oil stains around fueling area.

STOUGHTON
PWD
52

Catch basin located in building is abandoned.

Fluid storage room

Maintenance facility



Supply room

All trench drains within facility are filled with debris; recommend cleaning to allow proper drainage.

Recommend storing batteries that are on the ground to be placed on a pallet.

Rags to clean up any spills within maintenance facility.

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: June 8, 2023
Mr. Paul Giffune
Town of Stoughton Public Works Department
950 Central St
Stoughton, MA 02072

RE: NPDES Phase II Stormwater Assistance
Pollution Prevention & Good Housekeeping for Municipal Operations
Spring FY23 Department of Public Works SWPPP Observations

Dear Mr. Giffune,

In order to fulfill the requirements of the 2016 National Pollution Discharge Elimination System (NPDES) Stormwater General Permit, Environmental Partners, LLC (EP) conducted observations of all Town-owned facilities that maintain a Stormwater Pollution Prevention Plan (SWPPP). These facilities require a quarterly observation, in accordance with Section 2.3.7.b.iii of the Stormwater General Permit.

On May 24, 2023, EP visited the Department of Public Works, the one Town-owned facility that requires SWPPP observations. This was the MS4 Permit Year Five Spring site visit. This visit occurred during dry weather conditions.

The SWPPP observations included touring the buildings and grounds of the DPW garage, observing all storage stockpiles, material loading areas, fueling stations, equipment operation and maintenance areas, vehicle washing areas, salt piles, areas of erosion, and waste handling and disposal areas. In addition, Structural Control Measures, such as catch basins, BMPs, and inlet/outlets, were observed and determined to be effectively operating or in need of maintenance or replacement. Observations were recorded and photographs taken, which have been attached to this report.

The observations of the Department of Public Works found the facility is generally in compliance with respect to the Pollution Prevention and Good Housekeeping minimum control measures of the Stormwater General Permit. The only areas that require attention are described below:

- All leaching basins have sand/silt that is limiting infiltration and should be cleaned. Catch basin CB-3018 (as shown on the attached Site Map) had standing water at a higher elevation than the downstream leaching manholes. Therefore, the pipe exiting these catch basins may have a blockage preventing stormwater from exiting the catch basins. The Town should consider cleaning these catch basins and pipes connecting catch basin to leaching manhole.

- Areas of ponding were observed on various parts of the pavement across the property. The Town should monitor this issue and consider regrading and repaving areas with significant ponding.
- Ponding was noted around, catch basins, CB-3017 and CB-3021, where the pavement around the covers and grate had slightly subsided. The Town should monitor this issue and consider re-grading the areas. During the last inspection, ponding was observed around manholes, MH-1776, MH-2505, however, ponding was not observed during this inspection but should be monitored.
- Sand was observed eroding from a stockpile onto pavement in the rear of facility. EP recommends the sand stockpiles be better contained. It is understood that this area is frequently swept.
- The trench drains within the maintenance facility are filled with debris; to ensure proper drainage, routine cleaning is recommended.
- Routine sweeping around the garage is recommended.
- Ensure used Speedi Dri or similar absorbent is swept up and disposed of after dry. Some used Speedi Dri was noted around the property, including in the Mechanic's Bay – we are unsure if that material was recently put down to soak up oils or had been left out.
- Batteries were found sitting on the ground within the maintenance facility. It is recommended that these items be stored on pallets to further prevent any accidental spillage into the stormwater system.

It is recommended these items be stored on pallets to further prevent any accidental spillage into the stormwater system. Regular upkeep within the DPW facility is recommended. Corrective actions taken in response to these observation findings should be documented in writing by the facility, with a copy kept on file with other Stormwater General Permit compliance documentation.

The next SWPPP observation should occur in Fall of FY23 (between July and September 2023). Please do not hesitate to email or call us if you have any questions or require any additional information.

Sincerely,

Environmental Partners Group, LLC
Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning
P: 617.657.0280
E: sdt@envpartners.com

Environmental Partners Group, LLC
Karen N.Chan
Project Scientist
P: 617.657.0271
E: knc@envpartners.com

Attachments

Certification Page
DPW Garage Site Visit Observation Report
DPW Garage Site Map
DPW Garage Site Visit Photos

ENVIRONMENTAL PARTNERS
— An Apex Company —

CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name _____

Signature _____ Date _____

DPW Garage Stormwater Site Observation Report

General Information			
Facility Name	Stoughton DPW		
Date of Site Visit	05/24/2023	Start/End Time	9:00 am-10:00 am
Field Staff's Name(s)	Karen N. Chan		
Field Staff 's Title(s)	Project Scientist		
Field Staff 's Contact Information	knc@envpartners.com		
Field Staff 's Qualifications	B.S. in Civil/Environmental Engineering, MS4 Consultant		

Weather Information

Weather at time of this site visit?
☒ Clear ❑Cloudy ❑Rain ❑ Sleet ❑ Fog ❑ Snow ❑ High Winds
❑ Other: Temperature: 50s

Have any previously unidentified discharges of pollutants occurred since the last visit? ❑Yes ☒No
If yes, describe: N/A

Are there any discharges occurring at the time of site visit? ❑Yes ☒No
If yes, describe:

Structural Control Measures

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
1	CB-3013	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	The structure was dry.
2	CB-3014	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. Cleaning of outlet pipe is suggested.
3	CB-3015	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. Cleaning of outlet pipe is suggested.
4	CB-3016	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. Cleaning of outlet pipe is suggested.
5	CB-3017	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water observed – may not be draining properly into downstream manhole. Cleaning of outlet pipe is suggested. The pavement around the structure has slightly depressed, leading to ponding during wet weather.

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
6	CB-3018	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	Standing water with an oil sheen observed – may not be draining properly into downstream manhole. Cleaning of outlet pipe is suggested.
7	CB-3019	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Murky water with an oil sheen was observed within the structure. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
8	CB-3020	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Murky water with an oil sheen was observed within the structure. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
9	CB-3021	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Murky water was observed in the structure. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
10	MH-2503	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	Murky water with an oil sheen was observed within the structure. Cleaning is recommended. The water level within the structure was not above the crown of the incoming or outgoing pipes, therefore, the structure appears to be draining properly.
11	MH-2504, leaching	❑Yes ☒No	☒ Maintenance ❑ Repair ❑ Replacement	The structure was full of water and may not be draining properly. The bottom of the structure was murky, suggesting silt/sand build-up. Cleaning is recommended.
12	MH-1780, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	The structure was opened and observed to be dry. Catch basin, CB-3018, located upstream, is not draining properly to the structure. Cleaning is recommended.
13	MH-1776, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	The pipe from the upstream catch basin is unobstructed. Sand was observed. Cleaning is recommended.

	Structural Control Measure	Control Measure is Operating Effectively?	If No, In Need of Maintenance, Repair, or Replacement?	Corrective Action Needed and Notes (identify needed maintenance and repairs, or any failed control measures that need replacement)
14	MH-2505, leaching	☒Yes ❑No	☒ Maintenance ❑ Repair ❑ Replacement	The structure was full of water and may not be draining properly. Due to the high-water level, the outgoing and incoming pipes could not be located. Sand was observed and the bottom of the manhole was murky. Silt/sand build-up may be present. Cleaning is recommended
15	MH-1777, leaching	☒Yes ❑No	❑ Maintenance ❑ Repair ❑ Replacement	Minimal sand and some trash were observed. This structure only receives roof drainage. No immediate cleaning needed.

Areas of Materials or Activities exposed to stormwater

	Area/Activity	Observed?	Controls Adequate (appropriate, effective, and operating)?	Corrective Action Needed and Notes
1	Material loading/unloading and storage areas	☒Yes ❑No ❑ N/A	☒Yes ❑No	
2	Equipment operations and maintenance areas	☒Yes ❑No ❑ N/A	☒Yes ❑No	
3	Fueling areas	☒Yes ❑No ❑ N/A	☒Yes ❑No	
4	Outdoor vehicle and equipment washing areas	☒Yes ❑No ❑ N/A	☒Yes ❑No	
5	Waste handling and disposal areas	☒Yes ❑No ❑ N/A	☒Yes ❑No	Dumpster is covered.
6	Erodible areas/construction	❑Yes ❑No ☒ N/A	❑Yes ❑No	
7	Non-stormwater/ illicit connections	❑Yes ❑No ☒ N/A	❑Yes ❑No	
8	Salt storage piles or pile containing salt	☒Yes ❑No ❑ N/A	☒Yes ❑No	Sand and salt piles should be swept regularly.
9	Dust generation and vehicle tracking	☒Yes ❑No ❑ N/A	☒Yes ❑No	

Non-Compliance

No non-compliance issues.

Additional Control Measures

All leaching basins have sand/silt that limits infiltration and should be cleaned. Catch basin CB-3018 (as shown on the attached Site Map) had standing water at a higher elevation than the downstream leaching manholes. Therefore, the pipe exiting these catch basins may have a blockage preventing stormwater from exiting the catch basins. The Town should consider cleaning these catch basins and pipes connecting catch basin to leaching manhole.

Areas of ponding were observed on various parts of the pavement across the property. The Town should monitor this issue and consider regrading and repaving areas with significant ponding.

Ponding was noted around catch basins, CB-3017 and CB-3021, where the pavement around the covers and grate had slightly subsided. The Town should monitor this issue and consider re-grading the areas. During the last inspection, ponding was observed around manholes, MH-1776, and MH-2505, however, ponding was not observed during this inspection but should be monitored.

Sand was observed eroding from a stockpile onto pavement in the rear of facility. EP recommends the sand stockpiles be better contained. It is understood that this area is frequently swept.

The trench drains within the maintenance facility are filled with debris; to ensure proper drainage, routine cleaning is recommended.

Routine sweeping around the garage is recommended.

Ensure used Speedi Dri or similar absorbent is swept up and disposed of after dry. Some used Speedi Dri was noted around the property, including in the Mechanic's Bay – we are unsure if that material was recently put down to soak up oils or had been left out.

Batteries were found sitting on the ground within the maintenance facility, respectively. It is recommended that these items be stored on pallets to further prevent any accidental spillage into the stormwater system.

Notes

The Town is currently in the process of designing two stormwater BMP retrofits at this property. These retrofits will greatly improve water quality.

Print observer's name and title: ____Karen N. Chan, Project Scientist_____

Signature: Karen Chan _____Date:_____05/24/2023_____

DPW Garage Site Visit Photos

MH-2505--interior photo. Could not locate outgoing or incoming pipes due to high water level.

CB-3017; Ponding observed; re-grading the pavement around structure recommended.

CB-3021; Ponding observed; re-grading the pavement around structure recommended.

Sand stockpile; recommend sweeping sand around area.

Ponding and sand/salt eroding from shed. Routine sweeping is recommended.

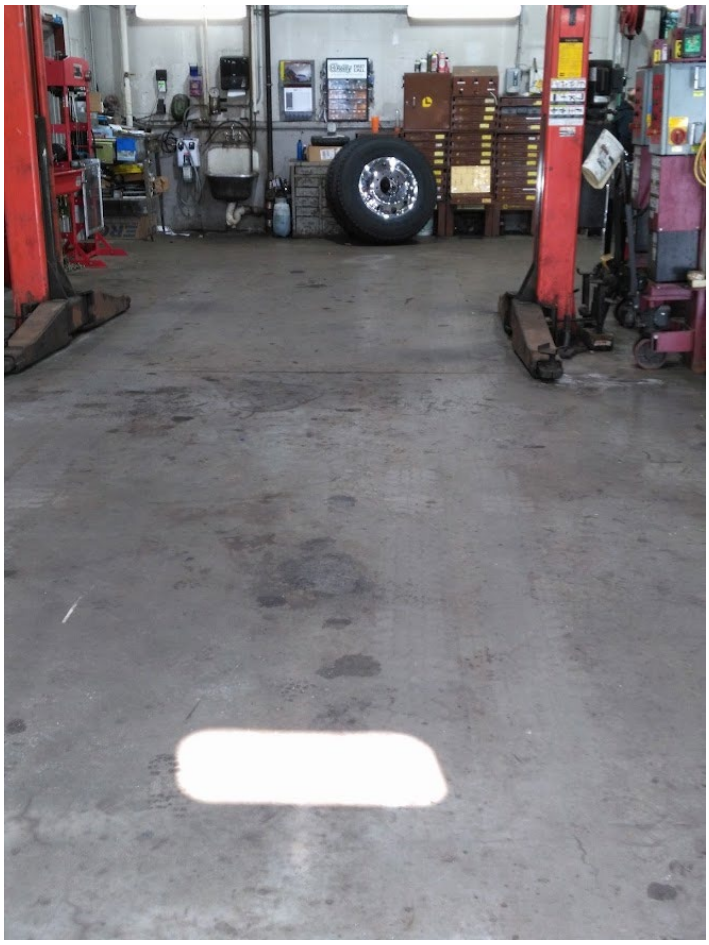
Storm drain located within storage garage.

Oil staining from plow trucks and left over Speedi Dry.

Oil staining from garbage trucks

Minor oil stains around fueling area.

STOUGHTON
P.W.D.



Maintenance facility

All trench drains within facility are filled with debris; recommend cleaning to allow proper drainage.

Recommend storing batteries that are on the ground to be placed on a pallet.

Routine sweeping recommended.

Ponding seen near the salt shed and storage garage.

APPENDIX N

Municipal Facility Audit Report

ENVIRONMENTAL PARTNERS
— An Apex Company —

Memorandum

Date 08/30/19

To Marc Tisdelle, P.E. – Town Engineer, Town of Stoughton

From Natalie Pommersheim – Project Manager, Associate, Environmental Partners

CC Craig Horsfall, P.E. – Assistant Town Engineer, Town of Stoughton

Eric A. Kelley, P.E., CHMM, LEED GA - Principal, Environmental Partners

Subject Facility Inspection Report Update

This memorandum summarizes the inspections of Stoughton's newly-updated facilities, outlined in Task 6 of the General Services Agreement – Letter of Understanding Task Order No. 22 for FY19 Stormwater Services for the Engineering Department of the Town of Stoughton.

Under this task, Environmental Partners Group, LLC (EP) performed external inspections of the three Town-owned facilities that have been updated since the date of the previous Facility Inspection Report (Fall 2014). These three facilities are:

- Joseph H. Gibbons Elementary School
- Stoughton Public Library
- Stoughton High School

Overall, no issues of non-compliance of the NPDES Stormwater General Permit were observed during the inspections. The Municipal Facility Audit Photo Summary (see attached) briefly summaries any recommendations for Fiscal Year 2020.

Attachments:

Municipal Facility Audit Photo Summary

STOUGHTON, MA
MUNICIPAL FACILITY AUDIT PHOTO SUMMARY
SITE VISIT – AUGUST 2019

Facility Name: Joseph H. Gibbons Elementary School

Location: 235 Morton Street

Observation: N/A

Recommendation: Continue to inspect Gibbons School BMPs as part of routine BMP inspections.

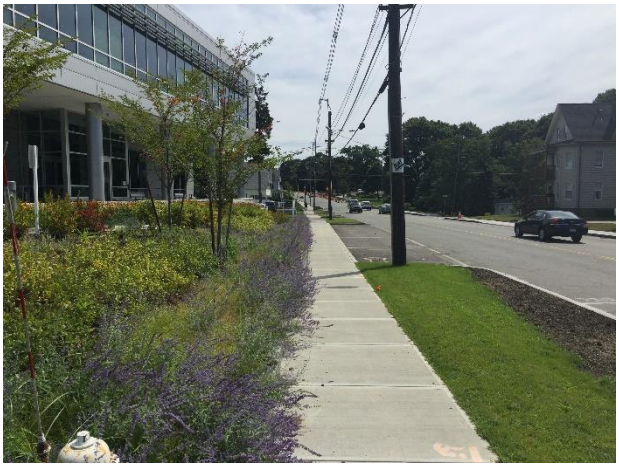
STOUGHTON, MA
MUNICIPAL FACILITY AUDIT PHOTO SUMMARY
SITE VISIT – AUGUST 2019

Facility Name: Stoughton Public Library

Location: 84 Park Street

Observation: N/A

Recommendations: Facility has been fully renovated since the last inspection. Perform an updated audit of the interior of the facility for compliance of the NPDES Stormwater General Permit.



STOUGHTON, MA
MUNICIPAL FACILITY AUDIT PHOTO SUMMARY
SITE VISIT – AUGUST 2019

Facility Name: Stoughton High School

Location: 232 Pearl Street

Observation: N/A

Recommendation: Facility has been fully replaced since the last inspection. Perform an updated audit of the interior of the facility for compliance of the NPDES Stormwater General Permit.

APPENDIX O

BMP Observation Reports

ENVIRONMENTAL PARTNERS
— An Apex Company —

July 20, 2023

Mr. Marc J. Tisdelle
Town Engineer
Town Hall
10 Pearl Street
Stoughton, MA 02072

RE: NPDES Phase II Stormwater Assistance
Pollution Prevention & Good Housekeeping for Municipal Operations
Annual Stormwater Treatment Structure Site Visits

Dear Mr. Tisdelle,

On April 13, 2016, the Environmental Protection Agency (EPA) released the General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4s) in Massachusetts, which became effective July 1, 2018. The Permit imposes a host of new requirements for the Town of Stoughton and all communities under its jurisdiction.

To address the Permit requirements (Section 2.3.7.a.iii.6), the Town, or hired representatives, must annually visit, and observe all fifty-three (53) stormwater treatment structures. Each year, EP improves the Town's BMP inventory. During this year's catchment investigations, a total of six (6) additional municipal stormwater treatment best management practices (BMPs) were added to the Town's inventory. With the addition of the ten BMPs, the total inventory has increased to **59 BMPs.**

On June 23, June 28, and June 29, 2023, Environmental Partners Group, LLC (EP) completed observations of fifty-nine 59) municipal stormwater treatment best management practices (BMPs). One (1) BMP, BMP-75, located at the Stoughton High School parking lot, could not be located, and is assumed to be paved over. Town assistance is needed to locate the structure. This work completes the requirement to visit and screen all municipal stormwater treatment structures.

The locations of all BMPs visited are shown in **Figure 1**: **BMP Observation Locations**, and the observations are summarized in **Table 1: Stormwater BMP Inventory and Observations**. Also attached are the completed BMP field data forms with photographs and detailed condition data.

During the site visit, structure condition and maintenance issues were noted. Completed BMP observation data forms with photographs are attached to this report. A summary of all maintenance issues are also summarized in **Table 1**. Overall, all the inspected BMPs require routine maintenance.

In general, within the stormwater management subsurface structures, we noted some sediment at the bottom of the structures, standing water with organic material and dead vegetation and debris. Also noted was excess growth of vegetation, buildup of dead vegetation, and trash. Some pooling at

inlets to BMPs were noted, indicating a build-up of sediment. Areas of riprap that require sediment removal or refreshing of the stone were also noted. We also observed some areas where re-vegetation and stabilization of banks is recommended. And lastly, some inlets or outlets were partially clogged with debris and sediment.

We very much appreciate the opportunity to work with the Town of Stoughton on this project. Please don't hesitate to contact us if you have any questions or require additional information.

Sincerely,

Environmental Partners Group, LLC
Scott D. Turner, PE, AICP, LEED AP ND
Director of Planning
P: 617.657.0258
E: sdt@envpartners.com

Environmental Partners Group, LLC
Karen N. Chan
Project Scientist
P: 617.657.0271
E: knc@envpartners.com

CC: Paul Giffune, Superintendent

Attachments:
Certification Page
Figure 1: BMP Observation Locations
Table 1: Stormwater BMP Inventory and Observations
BMP Field Data Forms

MS4 CERTIFICATION PAGE

ENVIRONMENTAL PARTNERS
— An Apex Company —

CERTIFICATION

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Printed Name _____

Signature _____ Date _____

FIGURE 1

BMP Observation Locations

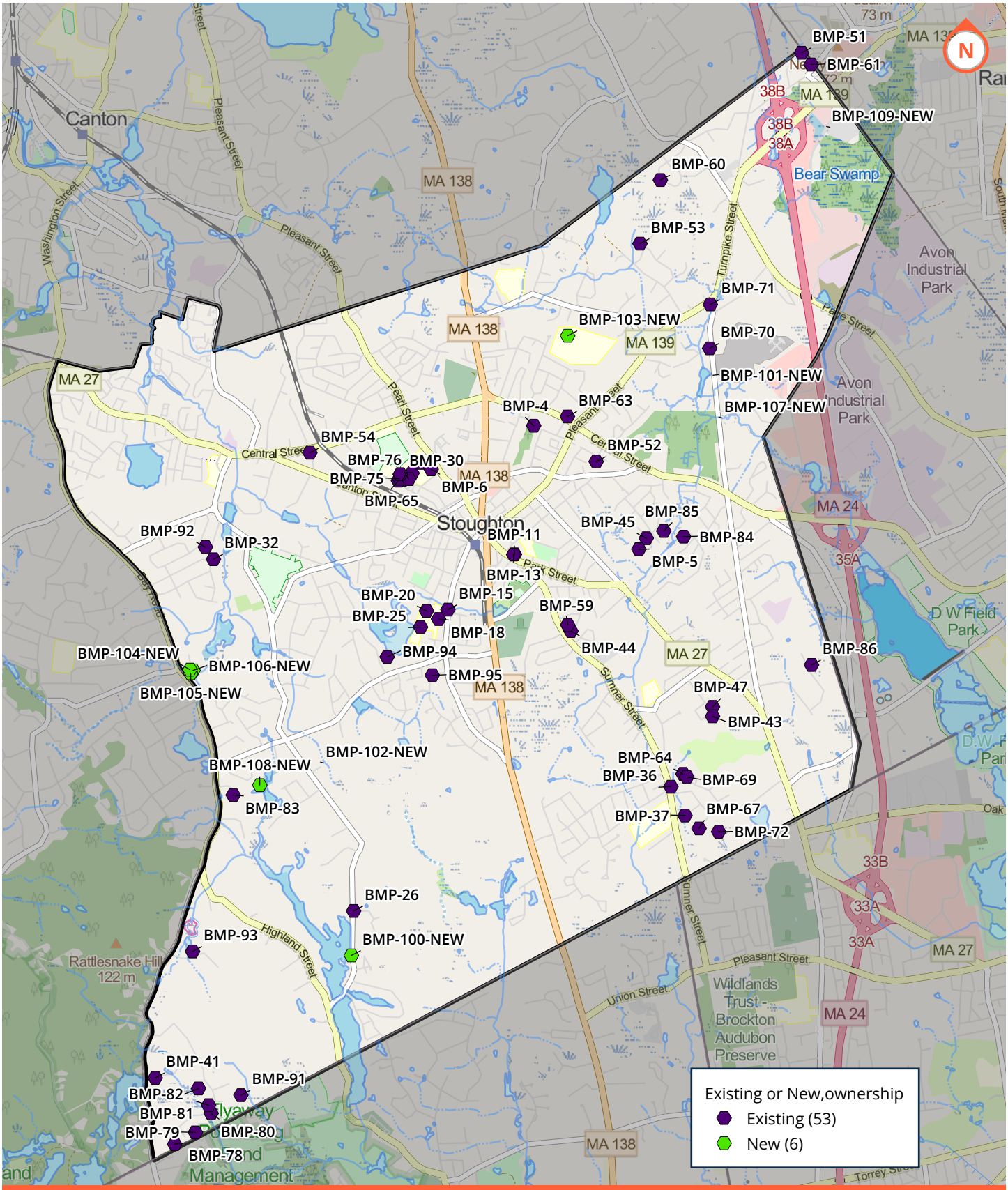


Figure 1

BMP Observation Locations

Stoughton, MA

September 2023

ENVIRONMENTAL PARTNERS

— An Apex Company —

TABLE 1

BMP Inventory and Observations

Table 1: Stormwater BMP Inventory and Observations
Stoughton, MA

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-4	South side of Senior Center and Youth Commission	110 Rockland Street	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Some erosion and sediment buildup found along the slopes of the basin and at the base of the base. Some sediment buildup is also observed at the mouth of the inlet structure. Vegetation growth blocking the inlet structure is also observed. Little to no riprap remaining at the base of the inlet structure. Vegetation within the basin looks well kept.	Remove any dead and overgrown vegetation and sediment in front of inlet structure to allow proper stormwater flow. Replenish riprap where needed. Continue routine maintenance; the area has been recently mowed.
BMP-5	Within bend of Christie Murphy Drive	60 Christie Murphy Drive	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Unsure what kind of proprietary separator this is. Verify with Town. There is a minor amount of trash observed. Overall, it appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
			Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Dead and fallen trees are impeding the inlet structure. Minor amount of leaf litter buildup found at the mouth of the structure. Riprap is filled with some dead branches and leaves.	Cut back the dead and fallen trees to allow access to the inlet structure and allow proper stormwater flow. Refresh/clean and replenish riprap.
			Treatment - Extended Dry Detention Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Sediment buildup at the base of the basin and erosion along the slopes of the basin observed.	Routine maintenance such as pruning is recommended. Refresh/clean and replenish riprap where needed.
BMP-6	Stoughton High School; adjacent to tennis courts	232 Pearl Street	Infiltration - Subsurface Structure	1 - System operating as designed - No issues	Opened 2 manholes with weirs. Appears to be functioning. Manholes had no excess debris.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
BMP-11	Stoughton Public Library	104 Park Street	Infiltration - Subsurface Structure	1 - System operating as designed - No issues	Could not locate the inspection port.	Town to verify where the inspection port is located and if it exists.
BMP-13	Stoughton Public Library's parking lot	104 Park Street	Infiltration - Subsurface Structure	2 - System operating as designed - Maintenance needed	BMP appears to be working as designed. Some leaf litter observed at the bottom of the inspection port.	Routine maintenance such as cleaning per O&M plan and site plans is recommended. **No immediate maintenance need.**
BMP-15	Gibbons Elementary School; adjacent to the soccer field.	241 Morton Street	Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Some dead and overgrown vegetation within the riprap of the sediment forebay. Sediment buildup found leading into the sediment forebay. Minor trash observed.	Remove dead and overgrown vegetation and trash. Refresh/clean and replenish riprap where needed.
			Treatment - Bioretention Area / Rain Garden	2 - System operating as designed - Maintenance needed	Minor amount of trash observed. Catch basin grate leading into the bioretention area is covered with vegetation.	Remove trash. Routine maintenance such as pruning and mowing is recommended. Clean catch basin grate and catch basin leading into the bioretention area as needed.
BMP-18	Gibbons Elementary School; adjacent to the front parking lot.	241 Morton Street	Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	There is significant sediment buildup and overgrown vegetation at the mouth of the inlet structure. The riprap leading into the sediment forebay has significant sediment buildup and dead vegetation. There is standing water in the middle of the forebay, suggesting it is not draining properly.	Remove sediment, vegetation and trash within the forebay. Refresh/clean and replenish riprap where needed. Clean the inlet structure to allow proper stormwater flow. Remove trash.
			Treatment - Bioretention Area / Rain Garden	2 - System operating as designed - Maintenance needed	Some overgrown vegetation and erosion observed within the bioretention area. Erosion is also observed along the banks of the bioretention area. Minor amount of trash observed in the sediment forebay leading into the bioretention area.	Routine maintenance such as pruning and mowing is recommended. It appears that the area is relatively maintained. Reseed as needed and as detailed in the site plans. Remove trash.
			Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Some dead leaves and grass observed within the riprap of the sediment forebay.	Remove dead vegetation. Refresh/clean and replenish riprap where needed.
BMP-20	Gibbons Elementary School; adjacent to the playground behind the school	93 Bradford Street	Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Some sediment buildup and trash at the base of the sediment forebay. Some dead vegetation and overgrown vegetation leaning into the basin observed.	Remove dead and overgrown vegetation and trash. Refresh/clean riprap. Overall, in good condition. **No immediate maintenance needed.**
			Treatment - Bioretention Area / Rain Garden	2 - System operating as designed - Maintenance needed	Some overgrown and dead vegetation observed. Minor amount of trash observed. It appears the BMP is relatively maintained.	Routine maintenance such as pruning and cleaning recommended. Remove dead and overgrown vegetation and trash.
BMP-25	Gibbons Elementary School; where the school buses are located	235 Morton Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning recommended per the Stormceptor O&M plan. Overall in good condition. **No immediate maintenance needed.**

Table 1: Stormwater BMP Inventory and Observations
Stoughton, MA

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-26	At the immediate entrance of Gibson Way off of West Street, directly in the cent	1546 West Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	There is an oil sheen at the top of the standing water indicating oil and grease are being separated as intended.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
BMP-30	Stoughton High School; back parking lot	232 Pearl Street	Infiltration - Subsurface Structure	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning recommended per O&M plan. Overall in good condition. **No immediate maintenance needed.**
BMP-32	Located on the east side of Woodpecker Road, where Woodpecker Road meets Smith Avenue	110 Woodpecker Road	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	Grass clippings along the edge of the basin is observed. It is assumed that residents are dumping their grass clippings in the basin.	Remove trash. Routine pruning is recommended. Refresh/clean riprap and replenish where needed.
BMP-36	Located on the northeast corner of the intersection of Chase Run and Sumner Street	907 Sumner Street	Conveyance - Drainage Channel	4 - System not operating as designed	Significant leaf litter and sediment buildup within the mouth of the inlet structure and within the channel. Little to no riprap remaining within the channel. Dead vegetation and fallen trees overhanging and falling into the channel are observed.	Remove dead and fallen trees and leaf litter buildup. Refresh/clean and replenish riprap where needed. Remove trash.
			Conveyance - Drainage Channel	4 - System not operating as designed	Significant overgrown and dead vegetation and sediment buildup within the mouth of the inlet structure and within the channel. Dead vegetation and fallen trees overhanging and falling into the channel are observed.	Remove dead and fallen trees and leaf litter buildup. Refresh/clean and replenish riprap where needed. Remove trash.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Significant amount of trash found along the banks of the basin and within the basin.	Remove trash. Routine pruning is recommended. Refresh/clean riprap and replenish where needed.
BMP-37	Between 16 and 20 Dennison Court	16 Dennison Court	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant sediment buildup and overgrown vegetation impeding the inlet structure. Little to no riprap left within the drainage channel. Any riprap that is remaining should be refreshed/cleaned. Minor amount of trash and leaves found in the grate of the inlet structure.	Remove overgrown vegetation that is starting to block the inlet structure. Refresh/clean and replenish riprap Remove any trash seen in the grate of the inlet structure and in the drainage channel. The standing water seen within the riprap of the channel may be from the rain showers that occurred earlier in the morning.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Dead leaves and erosion surround the slopes of the basin. Sediment buildup within the basin is also observed.	Remove trash. Routine maintenance such as pruning is recommended.
BMP-41	Located about 300 feet down Turnstone Terrace, on the right (south) side of the	33 Turnstone Terrace	Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	The BMP is becoming naturalized. There is a layer of sediment and leaves on the bottom of the basin.	Riprap overflow area and at the flared end structure need to be cleared of brush, leaves, and sediment and riprap replaced. Base of basin needs to be regraded.
BMP-43	Behind 80 Bergeron Way	80 Bergeron Way	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	The device has "inlet" written above the outlet pipe and "outlet" written about the inlet. Likely this BMP needs to be rotated 180 degrees.	Routine maintenance such as cleaning is recommended per the Hydro International O&M plan. **No immediate maintenance needed.**
			Conveyance - Water Quality Swale	2 - System operating as designed - Maintenance needed	Significant leaf litter buildup found at the mouth of the inlet structure and within the swale. Little to no riprap remaining.	Remove leaf litter in front of the inlet structure to allow proper stormwater flow. Refresh/clean and replenish riprap.
BMP-44	South of Bancroft road	246 Sumner Street	Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	The BMP has been fully naturalized. Due to the overgrown vegetation, the inlet structures are difficult to access. From afar, there appears to be some sediment buildup at the mouth of the inlet. Little to no riprap remaining.	Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended. Minor amount of trash observed; remove trash.

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-45	Corner of Christie Murphy Drive and James Massey Lane	10 James Massey Lane	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Minor amount of trash observed. Verify with Town what kind of proprietary separator this is. Unsure what kind this is.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
			Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	BMP has become fully naturalized. Sediment buildup within the basin and erosion along the slopes of the basin observed. Significant sediment buildup and overgrown and fallen trees impeding the inlet structure observed. Towards the end of the channel, riprap is missing and should be refreshed and replenished.	Remove dead and overgrown and fallen trees impeding the inlet structure. Refresh/clean and replenish riprap where needed.
BMP-47	Bergeron Way	60 Bergeron Way	Pretreatment - Proprietary Separator	2 - System operating as designed - Maintenance needed	Some trash observed within the unit.	Remove trash. Additionally, routine maintenance such as cleaning is recommended per the Hydro International O&M plan.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	Significant overgrown cattails obsessed. Some dead vegetation (cattails) seen throughout the basin. Trash buildup is observed along the edge of the basin. Riprap around overflow and overflow outlet need cleaning or replacement.	Remove trash. Refresh/clean and replenish riprap.
			Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Significant overgrown and dead vegetation found within and around the forebay.	Refresh/clean and replenish riprap.
BMP-51	On the Town line between Stoughton and Randolph	70 Drinkwater Avenue	Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Significant sediment buildup at the mouth of the inlet structure and the base of the basin. No riprap remaining. Some standing water at the mouth of the structure but that may be from the rain from earlier in the day. Some trash.	Remove trash and sediment in front of the inlet structure. Replenish riprap at the inlet structure. Remove trash. Routine pruning recommended.
BMP-52	SE of 55 Vieve Avenue	111 Richard Road	Pretreatment - Sediment Forebay	4 - System not operating as designed	There is significant overgrown vegetation and leaf litter. With the amount of vegetation and leaf litter, could not locate where sediment forebay is. The area has been fully naturalized. Dead and fallen trees surround the basin and forebay.	Remove overgrown and dead vegetation and leaf litter. Routine maintenance such as pruning is recommended. Refresh/clean and replenish riprap. Based on the significant amount of vegetation on the forebay, it is difficult to gauge if there is any riprap left.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized . The perimeter of the basin still has significant growth but looks better maintained. Significant leaf litter on top of riprap; unclear if there is any left.	Cut back dead and overgrown trees and vines. The inlet pipe is not blocked but continue to clean the area to allow proper stormwater flow. Routine maintenance such as pruning and mowing is recommended. Replenish riprap.
BMP-53	Between 39 Hana Drive and 52 Pondview Lane	52 Pondview Lane	Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	The basin is fully naturalized. Due to the overgrowth, I could not locate the inlet or outlet structures.	Remove any vegetation that is covering the inlet and outlet structures to allow proper stormwater flow. Replenish riprap. Routine maintenance such as pruning is recommended.
BMP-54	Parking lot of the Fire Department; in front of the garage on the western side of the building.	1550 Central Street	Infiltration - Subsurface Structure	1 - System operating as designed - No issues	5 gallery ports opened. BMP appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
			Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	Overgrown and dead vegetation overhanging the sides of the basin. Erosion and sediment buildup observed along the slopes of the basin.	Routine pruning and cleaning recommended.
BMP-59	North of Bancroft Road	236 Sumner Street	Treatment - Extended Dry Detention Basin	2 - System operating as designed - Maintenance needed	Residents keep this BMP maintained to an extent. Little to no riprap remaining at the bottom of the inlet structure.	Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.

Table 1: Stormwater BMP Inventory and Observations
Stoughton, MA

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-60	Between 33 and 21 Freely Drive	33 Freely Drive	Pretreatment - Oil/Grit Separator	1 - System operating as designed - No issues	Excessive vegetation around the structure observed. Area around the structure should be routinely and pruned. The oil/grit separator appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The BMP has 2 separate chambers, but both appear to have water and vegetation. Could not locate the inlet structures.	Trash should be removed. Replenish riprap and allow access to inlet structures. Routine pruning and mow is recommended.
BMP-61	Corner of Drinkwater Avenue and Willow Street	461 West Street	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The BMP has become naturalized. Sediment buildup and some erosion observed at the base of the base and along the slopes of the basin. Due to the amount of vegetation and leaf litter found within the basin, could not locate the inlet structure.	Remove trash. Remove vegetation and make inlet structure accessible.
BMP-63	Corner of main road and side street, behind fence	750 Central Street	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The basin is fenced in, therefore, inspection could only be done from the outside of the fence. The basin has been fully naturalized, with pine trees growing in the basin. From afar, it appears that there is a significant amount of sediment buildup at the bottom of the basin. There is a minor amount of trash around the fence but does not appear to be entering the basin. Dead pine leaves and leaves observed throughout the basin.	Maintain tree growth with routine pruning. Due to the basin being enclosed, it is unclear if there is any riprap at the base of the inlet structures. EP attempted to enter the basin but the significant overgrown vegetation did not allow the fence door to open. Refresh/clean and replenish riprap where needed. Remove trash.
BMP-64	Located in the woods behind #30 Chase Run.	30 Chase Run	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Dead and fallen trees are impeding the inlet structure. Leaves and sediment have clogged riprap and for base of channel. Riprap between adjacent basin and channel needs to be replaced. Channel may need to be regraded.	Remove dead and overgrown vegetation and trash. Remove the fallen trees in front of the inlet structure to allow proper stormwater flow. Refresh/clean and replenish riprap.
BMP-65	Stoughton High School	200 Cushing Street	Pretreatment - Proprietary Separator	2 - System operating as designed - Maintenance needed	Compared to last year's inspection, the amount of trash within the structure has significantly reduced. There are still some minor amounts of trash with the structure.	Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual. **No immediate maintenance needed.**
			Infiltration - Subsurface Structure	1 - System operating as designed - No issues	There is no observation port to inspect the unit.	Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual. **No immediate maintenance needed.**
BMP-67	Between/behind 13 and 9 Fords Run	13 Fords Run	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Some sediment buildup and dead vegetation observed at the mouth of the inlet and throughout the channel. Some trash is seen throughout the channel.	Remove dead vegetation and trash. Refresh/clean and replenish riprap where needed.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	Sediment buildup and erosion observed on the base of the basin and along the slopes of the basin. Minor amount of trash observed.	Remove trash. Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.
BMP-69	Located between #24, and #16 Penniman Circle, about 100ft back into the woods.	16 Penniman Court	Conveyance - Drainage Channel	4 - System not operating as designed	Due to the significant overgrown vegetation, EPG could not locate the conveyance drainage channel.	Remove significant overgrown vegetation to allow access and stormwater flow. Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Accessing the basin was difficult due to the amount of dead and fallen trees. Soil erosion and sediment buildup found along the slopes of the basin and within the basin. Grass clippings observed around the basin suggesting residents may be dumping their lawn clipping at the basin. Minor amount of trash observed.	Routine maintenance such as pruning is recommended to allow access to both the drainage channel inlet structure and to the basin. Remove trash.
BMP-70	1101 Turnpike Street	1101 Turnpike Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Minor amount of trash but appears to be functioning properly.	Routine maintenance such as cleaning per the Vortechnics O&M plan. **No immediate maintenance needed.**
			Conveyance - Drainage Channel	4 - System not operating as designed	Significant amount of sediment buildup and dead branches within the channel. Little to no riprap remaining.	Replenish riprap. Remove trash, though minor.
BMP-71	In the fenced in area to the east of a small parking lot off of Pleasant Street .	988 Pleasant Street	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The basin is mostly naturalized. There is some sediment buildup at the mouth of the inlet structure. The fenced in portion of the basin is maintained.	Continue routine maintenance such as mowing within the fenced in area. Replenish riprap.

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-72	In the woods about 450 feet southeast from Fords Run.	17 Fords Run	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The wet basin has been fully naturalized. Dead leaves are observed at the grate of the inlet structure. Algae growth found on the riprap/sediment forebay leading into the wet basin and within the basin itself.	Routine maintenance such as cleaning, mowing and pruning is recommended. Remove dead leaves on the grate of the inlet structure. Refresh/clean and replenish riprap.
BMP-73	Northwest corner of Stoughton High School	232 Pearl Street	Infiltration - Subsurface Structure	1 - System operating as designed - No issues	BMP appears to be functioning as designed. Manhole before subsurface unit has weir.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
BMP-75	Behind the High School, in the back parking lot.	232 Pearl Street	Infiltration - Subsurface Structure	**Could not locate structure; assumed to be buried. Town to assist in locating structure.**		
BMP-76	Behind the High School, in the back parking lot.	232 Pearl Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
BMP-78	Between 66 and 73 Cleary Dr	73 Cleary Drive	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The water level is not as high as last year. Minor amount of trash observed.	Routine maintenance such as cleaning, mowing and pruning is recommended. Remove trash. Refresh/clean and replenish riprap.
BMP-79	BMP wraps around houses on Cleary Drive and Lanes End	16 Lanes End	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Some overgrown vegetation along the channel. Sediment buildup observed within the channel, within the riprap of the channel. The inlet is partially obstructed by overgrown vegetation. Some trash observed.	Remove overgrown vegetation and refresh/clean and replenish riprap. Remove trash.
			Other - Dry Detention Basin	2 - System operating as designed - Maintenance needed	Some trash. Some deposits on riprap leading into the outlet control structure.	Refresh/clean and replenish riprap. Remove trash.
			Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Significant dead vegetation observed.	Remove woody vegetation from rip rap pad.
			Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Dead vegetation and sediment buildup observed at the mouth of the outlet. Organic material observed in riprap.	Remove overgrown vegetation and refresh/clean and replenish riprap.
BMP-80	Behind 154 Eagle Rock Rd	154 Eagle Rock Road	Treatment - Extended Dry Detention Basin	2 - System operating as designed - Maintenance needed	Sediment buildup at the mouth of the inlet structure is observed. Minor amount of trash within the basin observed. Some debris found within riprap towards the entrance of the outlet control structure.	Remove sediment at inlets and outlets. Routine pruning is recommended.
BMP-81	Between and behind 150 and 146 Eagle Rock Rd	150 Eagle Rock Road	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant overgrown and dead vegetation observed at the mouth of the inlet. Sediment buildup at the mouth of the inlet is also observed. If riprap is part of the design, there is no riprap left. Minor amount of trash observed.	Remove overgrown and dead vegetation in front of the inlet structure. Remove trash. Replenish riprap.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Some trash observed within the basin. Erosion along the slopes of the basin.	Remove trash. Restabilize the slopes of the basin. Routine maintenance such as pruning and cleaning is recommended.
BMP-82	120 Eagle Rock Road	120 Eagle Rock Road	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Some grass clippings observed. Sediment buildup within riprap and at the mouth of the inlet is observed. Minor amount of trash observed.	Remove grass clippings. Remove trash. Refresh/clean and replenish riprap.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Some trash is observed. Grass clippings and erosion along the slopes of the basin are also observed.	Remove grass clippings and trash. Refresh/clean riprap and replenish riprap. Restabilize the slopes of the basin.
BMP-83	Between 66 and 38 Kevin Clancy Way	66 Kevin Clancy Way	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The inlet and outlet structures do have some overgrown vegetation in front of it but not as significant. Some trash.	Remove trash. Routine pruning is recommended. Riprap should be refreshed/cleaned and replenished.
BMP-84	Access from William Kelley Road cup-de-sac	246 Curtis Avenue	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Sediment and some leave litter buildup observed. Riprap is either filled with sediment or needs to be replenished/refreshed.	Refresh/clean and replenish riprap. Routine maintenance such as pruning and cleaning is recommended.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Sediment buildup and erosion observed both within and along the banks of the basin. The structure/headwall towards the back of the basin is filled with leaves.	Restabilize the slopes of the basin. Routine maintenance such as pruning and mowing is recommended. Remove leaves/debris from inlet and outlet structures to allow proper stormwater flow. Refresh/clean and replenish riprap.

Table 1: Stormwater BMP Inventory and Observations
Stoughton, MA

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-85	Large basin behind 3 houses	57 Tamarack Drive	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant sediment and overgrown vegetation in front of the inlet structure. Full grown trees are blocking the inlet structure. There is little to no riprap remaining within the channel.	Trim back the overgrown trees to allow access to the inlet structure and to allow proper stormwater flow. Refresh/clean and replenish riprap.
			Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Significant dead vegetation and some leaves found within riprap. Minor amount of trash observed.	Refresh/clean and replenish riprap. Remove trash.
			Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	The basin has been fully naturalized. Trash along the banks of the basin observed.	Remove trash. Routine maintenance such as pruning is recommended.
BMP-86	Edge of Shuman, side of warehouse	139 Shuman Avenue	Treatment - Extended Dry Detention Basin	2 - System operating as designed - Maintenance needed	The catch basin adjacent to the basin is no longer covered by vegetation, however, the inlet structure/headwall is partially covered by overgrown vegetation. Some trash observed.	Routine pruning and mowing is recommended. Routine cleaning and removal of trash is also recommended. Remove overgrown vegetation in front of the inlet structure/headwall and catch basin is recommended to all proper stormwater flow.
BMP-90	Stoughton High School; In between the soccer field and football stadium. Located in front of the speed bump.	232 Pearl Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**
BMP-91	Around the property of 33 Fosters Run	33 Fosters Run	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant sediment buildup and no riprap remaining at the mouth of the inlet. Little to no riprap observed within the drainage channel.	Refresh/clean riprap and replenish. Routine pruning and cleaning recommended.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Sediment buildup is observed at the base of the basin and some erosion along the slopes of the basin is observed. Some trash observed throughout the basin.	Remove trash. Routine pruning and cleaning is recommended.
BMP-92	Between Woodpecker Rd and Powell St	87 Woodpecker Road	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized.	Routine pruning and mowing is recommended. Refresh/clean and replenish riprap.
BMP-93	Cul-de-sac of Jordan Drive	52 Jordan Drive	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant overgrown and dead vegetation and sediment buildup in front of the inlet structure. Dead vegetation is impeding the inlet, limiting access to the structure. There is some standing water and dead leaves at the mouth of the outlet structures. Little to no riprap remaining at all the structures.	Remove dead and overgrown vegetation at the inlet and outlet structures. Access to the outlet was difficult due to dead and fallen trees. Trim back and remove trees to allow access and proper stormwater flow. Refresh/clean ands replenish riprap.
			Treatment - Extended Dry Detention Basin	2 - System operating as designed - Maintenance needed	Sediment buildup within the base of the basin is observed. The outlet from the conveyance channel has some standing water and sediment buildup.	Remove dead and fallen trees leading to outlet as access to outlet was rather difficult.
BMP-94	Behind 11 Hunt Drive	15 Hunt Drive	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	The basin has become fully naturalized. Sediment buildup within the basin and at the mouth of the inlet structure is observed. Little to no riprap remaining in front of the inlet structure.	Refresh/clean and replenish riprap. Remove trash. Remove dead vegetation in front of the inlet structure.
			Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Dead leaves seen within the riprap of forebay.	Refresh/clean and replenish riprap.
BMP-95	Corner of Whitney Avenue and Whitten Avenue	41 Whitney Avenue	Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Some dead vegetation and some sediment buildup within forebay. Overall in good condition.	Remove dead and overgrown vegetation. Refresh/clean and replenish riprap.
			Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Some dead leaves are observed at the mouth of the inlet pipe structure. Overall in good condition.	Routine maintenance such as pruning and cleaning is recommended. Remove dead and overgrown vegetation in front of inlet structure.
BMP-96	Stoughton High School	205 Cushing Street	Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	Appears to be functioning properly.	Routine maintenance such as cleaning per O&M plan is recommended. **No immediate maintenance need.**

Table 1: Stormwater BMP Inventory and Observations
Stoughton, MA

BMP ID	Location	Address	Type	Asset Condition	Condition Notes	Asset Recommendation
BMP-100	West Street	1670 West Street	Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Sediment buildup within riprap and some dead and overgrown vegetation observed in front of the inlet structure. Minor amount of trash observed.	Routine pruning and mowing is recommended. Remove sediment in front of the inlet structure. Refresh/clean and replenish riprap where needed.
			Unknown	4 - System not operating as designed	Could not inspect manhole structure due to being buried under debris and vegetation.	Town assistance needed to expose structure. There is a manhole upstream of the conveyance channel that is buried under significant debris. EPG attempted to expose the structure but had little success. Once exposed, inspection and BMP type can be identified.
BMP-103	Dawes School	50 Brad Road	Infiltration - Infiltration Basin	2 - System operating as designed - Maintenance needed	Some leaves and branches with riprap. Some erosion seen at the end of the riprap, but otherwise in good condition. Overgrown vegetation around the area.	Remove leaves and branches. Refresh/clean riprap. Routine maintenance such as pruning around the basin is recommended.
			Pretreatment - Proprietary Separator	1 - System operating as designed - No issues	There is an oil sheen at the top of the standing water indicating oil and grease are being separated as intended. Appears to be functioning properly.	Routine maintenance such as cleaning is recommended per the Hydro International O&M manual. **No immediate maintenance needed.**
BMP-104	Muddy Pond Water Treatment Building	1095 Bay Road	Conveyance - Grassed Channel (Biofilter Swale)	1 - System operating as designed - No issues	Some dead leaves observed throughout channel. Otherwise, in good condition.	Routine maintenance such as pruning is recommended.
			Treatment - Bioretention Area / Rain Garden	2 - System operating as designed - Maintenance needed	Some dead vegetation and sediment buildup at the bottom of the basin is observed. Erosion along the slopes of the basin observed. Sediment buildup observed along the edge of the basin, within riprap.	Remove dead vegetation within and around the basin. Side slopes of bioretention area should be reseeded. Refresh /clean and replace riprap where needed. Routine maintenance such as pruning is recommended.
BMP-105	Muddy Pond Water Treatment Building	1095 Bay Road	Pretreatment - Sediment Forebay	2 - System operating as designed - Maintenance needed	Some dead vegetation observed within the riprap of forebay. Some grass growing through the forebay.	Refresh/clean riprap and replenish where needed. Routine maintenance such as cleaning of the beehive grate structure is recommended.
			Treatment - Bioretention Area / Rain Garden	2 - System operating as designed - Maintenance needed	Some dead vegetation and sediment buildup observed at the base of the basin. Erosion along the slopes of the basin is observed.	Remove dead vegetation. Bioretention area should be stabilized and vegetated.
			Conveyance - Grassed Channel (Biofilter Swale)	2 - System operating as designed - Maintenance needed	Significant dead leaves and grass observed throughout the channel. Erosion along the slopes of the channel is also observed.	Remove dead vegetation and reseed as needed and as detailed in site plans.
BMP-106	Muddy Pond Water Treatment Building	1095 Bay Road	Conveyance - Grassed Channel (Biofilter Swale)	1 - System operating as designed - No issues	Some dead grass seen within riprap of the check dams. Otherwise, in good condition.	Routine maintenance is recommended such as pruning and cleaning.
			Conveyance - Drainage Channel	2 - System operating as designed - Maintenance needed	Significant sediment buildup and dead grass and leaves at the mouth of the inlet structure. Dead grass seen throughout the channel.	Remove dead vegetation and sediment from inlet structure to all proper stormwater flow. If riprap is needed in drainage channel, replenish where needed. Remove trash.
BMP-108	76 Grace Lane	76 Grace Lane	Treatment - Wet Basin	2 - System operating as designed - Maintenance needed	Could not locate the inlet structure to this basin due to the overgrown vegetation. Some trash found within the basin and along the edge of the basin.	Remove trash. Remove overgrown vegetation in front of inlet structure to allow proper stormwater flow. Routine maintenance such as pruning and cleaning is recommended.

BMP FIELD DATA FORMS

BMP-4

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-06-29 12:07:30 UTC by EPField 01
Location	42.13314566987629, -71.09633807959874
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	08:01
Weather	Clear, Warm
Field Staff	Karen Chan
Address	110 Rockland Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-4
Location	South side of Senior Center and Youth Commission

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some erosion and sediment buildup found along the slopes of the basin and at the base of the base. Some sediment buildup is also observed at the mouth of the inlet structure. Vegetation growth blocking the inlet structure is also observed. Little to no riprap remaining at the base of the inlet structure. Vegetation within the basin looks well kept.
Recommendations	Reseed and restabilization of the slopes of the basin as needed and as detailed in the site plans. Remove any dead and overgrown vegetation. Replenish riprap where needed. Continue routine maintenance; the area has been recently mowed.

Asset Photos

General Observations

Notes	Overall, the BMP is in fair condition. Continue routine maintenance such as pruning and mowing.

Overall Photos

BMP-5

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 17:12:26 UTC by EPField 01
Location	42.1229986448, -71.0846858226
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	12:22
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	60 Christie Murphy Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-5
Location	Within bend of Christie Murphy Drive

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Unsure what kind of proprietary separator this is. Verify with Town. There is a minor amount of trash observed. Overall, it appears to be functioning properly. Routine maintenance such as cleaning per O&M plan is recommended.

Asset Photos

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Describe Deficiencies Noted	Dead and fallen trees are impeding the inlet structure. Minor amount of leaf litter buildup found at the mouth of the structure. Riprap is filled with some dead branches and leaves.
Recommendations	Cut back the dead and fallen trees to allow access to the inlet structure and allow proper stormwater flow. Refresh/clean and replenish riprap.
Asset Photos	

Treatment - Extended Dry Detention Basin

BMP Type	Treatment - Extended Dry Detention Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized. Sediment buildup at the base of the basin and erosion along the slopes of the basin observed.
Recommendations	Routine maintenance such as pruning is recommended. Refresh/clean and replenish riprap.
Asset Photos	

General Observations

Notes	Overall, the BMP is in fair condition. The dry detention basin and conveyance drainage channel require routine maintenance such as pruning and cleaning.

Overall Photos

BMP-6

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-06-23 16:55:01 UTC by EPField 01
Location	42.12956395288686, -71.10769961774264
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	12:44
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	232 Pearl Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-6
Location	High School

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Recommendations	Opened 2 manholes with weirs. Appears to be functioning. Manholes had no excess debris. Routine maintenance such as cleaning is recommended per O&M plan.

Asset Photos

DRAIN

DRAIN

General Observations

Notes	Overall, BMP is in good condition. Routine maintenance such as cleaning is recommended per the O&M plan.

Overall Photos

BMP-11

Created	2023-04-06 19:18:25 UTC by EPField 01
Updated	2023-06-28 18:41:57 UTC by EPField 01
Location	42.12257319602744, -71.09847320502723
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	14:07
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	104 Park Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-11
Location	Stoughton Public Library

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Recommendations	Could not locate the inspection port. Town to verify where the inspection port is located and if it exists.

Asset Photos

General Observations

Notes	Could not locate the inspection port. Town to verify where the inspection port is located and if it exists.

Overall Photos

BMP-13

Created	2023-04-06 19:18:25 UTC by EPField 01
Updated	2023-07-07 17:38:19 UTC by EPField 01
Location	42.1225612414, -71.0985514905
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	14:01
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	98 Park Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-13
Location	Stoughton Public Library's parking lot

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	BMP appears to be working as designed. Some leaf litter observed at the bottom of the inspection port. Routine maintenance such as cleaning recommended per O&M plan and site plans.

Asset Photos

General Observations

Notes	Overall in good condition. Some leaf litter observed at the bottom of the inspection port. Routine maintenance such as cleaning recommended per O&M plan and site plans.
Overall Photos	

BMP-15

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 17:40:20 UTC by EPField 01
Location	42.1180349916, -71.1058455644
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	15:01
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	201 Morton Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-15
Location	Gibbons Elementary School; next to the soccer field.

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead and overgrown vegetation within the riprap of the sediment forebay. Sediment buildup found leading into the sediment forebay. Minor trash observed.
Recommendations	Remove dead and overgrown vegetation and trash. Refresh/clean and replenish riprap where needed.

Asset Photos

Treatment - Bioretention Area / Rain Garden

BMP Type	Treatment - Bioretention Area / Rain Garden
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No

Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Minor amount of trash observed. Catch basin grate leading into the bioretention area is covered with vegetation.
Recommendations	Remove trash. Routine maintenance such as pruning and mowing is recommended. Clean catch basin grate and catch basin leading into the bioretention area as needed.
Asset Photos	

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning, mowing and cleaning is recommended.

Overall Photos

BMP-18

Created	2023-04-06 19:18:25 UTC by EPField 01
Updated	2023-07-07 17:43:16 UTC by EPField 01
Location	42.1172574569, -71.10688132
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	14:15
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	241 Morton Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-18
Location	Gibbons Elementary School

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	There is significant sediment buildup and overgrown vegetation at the mouth of the inlet structure. The riprap leading into the sediment forebay has significant sediment buildup and dead vegetation. There is standing water in the middle of the forebay, suggesting it is not draining properly.
Recommendations	Remove sediment, vegetation and trash within the forebay. Refresh/clean and replenish riprap where needed. Clean the inlet structure to allow proper stormwater flow. Remove trash.

Asset Photos

Treatment - Bioretention Area / Rain Garden

BMP Type	Treatment - Bioretention Area / Rain Garden
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some overgrown vegetation and erosion observed within the bioretention area. Erosion is also observed along the banks of the bioretention area. Minor amount of trash observed in the sediment forebay leading into the bioretention area.
Recommendations	Routine maintenance such as pruning and mowing is recommended. It appears that the area is relatively maintained. Reseed as needed and as detailed in the site plans. Remove trash.

Asset Photos

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead leaves and grass observed within the riprap of the sediment forebay.
Recommendations	Remove dead vegetation. Refresh/clean and replenish riprap where needed.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning and mowing is recommended.

Overall Photos

BMP-20

Created	2023-04-06 19:18:25 UTC by EPField 01
Updated	2023-07-07 17:50:38 UTC by EPField 01
Location	42.117781221, -71.1087516323
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	14:50
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	93 Bradford Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-20
Location	Gibbons Elementary School

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some sediment buildup and trash at the base of the sediment forebay. Some dead vegetation and overgrown vegetation leaning into the basin observed.
Recommendations	Refresh/clean riprap. Overall, in good condition.

Asset Photos

Treatment - Bioretention Area / Rain Garden

BMP Type	Treatment - Bioretention Area / Rain Garden
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes

Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some overgrown and dead vegetation observed. Minor amount of trash observed. It appears the BMP is relatively maintained.
Recommendations	Routine maintenance such as pruning and cleaning recommended. Remove trash.
Asset Photos	

General Observations

Notes	Overall, BMP is in good condition. Routine maintenance such as pruning and mowing is recommended.

Overall Photos

BMP-25

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 17:53:15 UTC by EPField 01
Location	42.11659438782575, -71.10888012052368
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	14:34
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	235 Morton Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-25
Location	Gibbons Elementary School; where the school buses are located

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Overall, in good condition. Routine maintenance such as cleaning recommended per the Stormceptor O&M plan.

Asset Photos

General Observations

Notes	Overall, in good condition. Verify with Town if cleanout port to infiltration subsurface structure exists.

BMP-26

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 18:46:41 UTC by EPField 01
Location	42.0932628001, -71.1162905218
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	11:08
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1546 West Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-26
Location	At the immediate entrance of Gibson Way off of West Street, directly in the center

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	Yes
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	There is an oil sheen at the top of the standing water indicating oil and grease are being separated as intended. Routine maintenance is recommended per O&M manual.

Asset Photos

General Observations

Notes	Routine maintenance is recommended per O&M manual.

Overall Photos

BMP-30

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-07-07 18:48:12 UTC by EPField 01
Location	42.1286817175, -71.1108940551
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:58
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	232 Pearl Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-30
Location	High School; back parking lot

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Appears to be functioning properly.

Asset Photos

General Observations

Notes	Appears to be functioning properly.

Overall Photos

BMP-32

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 18:53:33 UTC by EPField 01
Location	42.1221720784, -71.1318202132
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	14:17
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	110 Woodpecker Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

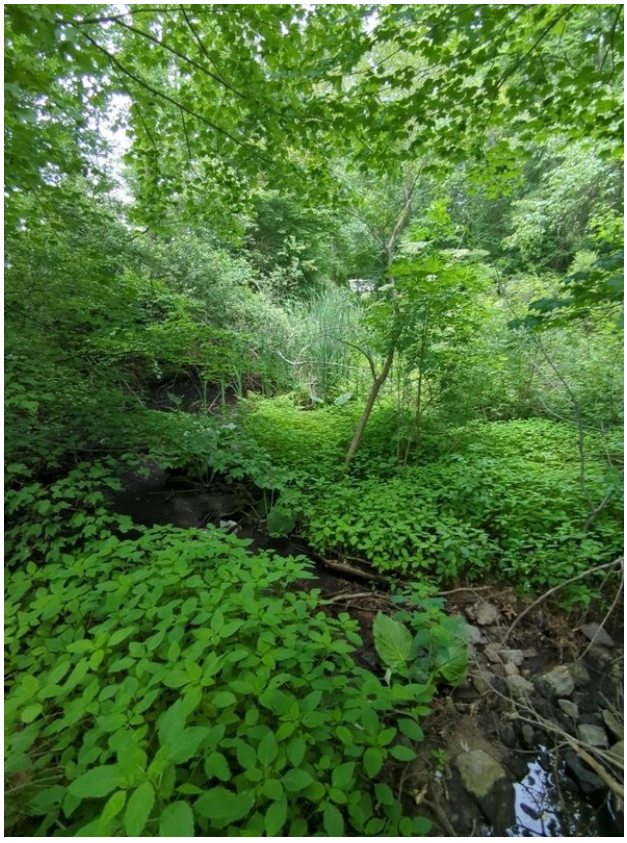
General BMP Information

BMP ID	BMP-32
Location	Located on the east side of Woodpecker Rd, where Woodpecker Rd meets Smith Ave;

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Grass clippings along the edge of the basin is observed. It is assumed that residents are dumping their grass clippings in the basin.
Recommendations	Remove trash. Routine pruning is recommended. Refresh/clean riprap and replenish where needed.

Asset Photos



General Observations

Notes	Routine maintenance such as cleaning and pruning is recommended.

Overall Photos

BMP-36

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 19:02:01 UTC by EPField 01
Location	42.1034743284, -71.0811360973
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	09:59
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	907 Sumner Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-36
Location	Located on the northeast corner of the intersection of Chase Run and Sumner Stre

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	Significant leaf litter and sediment buildup within the mouth of the inlet structure and within the channel. Little to no riprap remaining within the channel. Dead vegetation and fallen trees overhanging and falling into the channel are observed.
Recommendations	Remove dead and fallen trees and leaf litter buildup. Refresh/clean and replenish riprap where needed. Remove trash.

Asset Photos

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel

Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	Significant overgrown and dead vegetation and sediment buildup within the mouth of the inlet structure and within the channel. Dead vegetation and fallen trees overhanging and falling into the channel are observed.
Recommendations	Remove dead and fallen trees and leaf litter buildup. Refresh/clean and replenish riprap where needed. Remove trash.
Asset Photos	

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	The basin has become fully naturalized. Significant amount of trash found along the banks of the basin and within the basin.
Recommendations	Remove trash. Routine pruning is recommended. Refresh/clean riprap and replenish where needed.
Asset Photos	

General Observations

Notes	Routine maintenance such as cleaning and pruning is recommended.

Overall Photos

BMP-37

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 19:00:17 UTC by EPField 01
Location	42.1011055048, -71.0795722305
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	09:03
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	16 Dennison Court Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-37
Location	Between 16 and 20 Dennison Ct

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant sediment buildup and some overgrown vegetation impeding the inlet structure. Little to no riprap left within the drainage channel. Any riprap that is remaining should be refreshed/cleaned. Minor amount of trash and leaves found in the grate of the inlet structure.
Recommendations	Remove overgrown vegetation that is starting to block the inlet structure. Refresh/clean and replenish riprap. Remove any trash seen in the grate of the inlet structure and in the drainage channel. The standing water seen within the riprap of the channel may be from the rain showers that occurred earlier in the morning.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized. Dead leaves and erosion surround the slopes of the basin. Sediment buildup within the basin is also observed.
Recommendations	Remove trash. Routine maintenance such as pruning is recommended.
Asset Photos	

General Observations

Notes	Routine pruning and cleaning is recommended.
Overall Photos	

BMP-41

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-07-07 19:07:55 UTC by EPField 01
Location	42.0795344866, -71.1382833643
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	07:55
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	33 Turnstone Terrace Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-41
Location	Located about 300 feet down Turnstone Terrace, on the right (south) side of the

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	BMP is becoming naturalized. There is a layer of sediment and leaves on the bottom of the basin.
Recommendations	Riprap overflow area and at the flared end structure need to be cleared of brush, leaves, and sediment and riprap replaced. Base of basin needs to be regraded.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning is recommended.

Overall Photos

BMP-43

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 19:11:55 UTC by EPField 01
Location	42.1092606581, -71.0765136552
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	10:22
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	80 Bergeron Way Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-43
Location	Behind 80 Bergeron Way

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	The device has "inlet" written above the outlet pipe and "outlet" written about the inlet. Likely this BMP needs to be rotated 180 degrees. Routine maintenance such as cleaning is recommended per the Hydro International O&M plan.

Asset Photos

INLET

Conveyance - Grassed Channel (Biofilter Swale)

BMP Type	Conveyance - Grassed Channel (Biofilter Swale)

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant leaf litter buildup found at the mouth of the inlet structure and within the swale. Little to no riprap remaining.
Recommendations	Remove leaf litter in front of the inlet structure to allow proper stormwater flow. Refresh/clean and replenish riprap.
Asset Photos	

General Observations

Notes	The Hydro International unit has "inlet" written above the outlet pipe and "outlet" written about the inlet. Likely this BMP needs to be rotated 180 degrees. Routine maintenance such as cleaning and pruning is recommended.

Overall Photos

BMP-44

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 19:14:32 UTC by EPField 01
Location	42.1162725601, -71.0922136499
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	13:34
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	246 Sumner Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

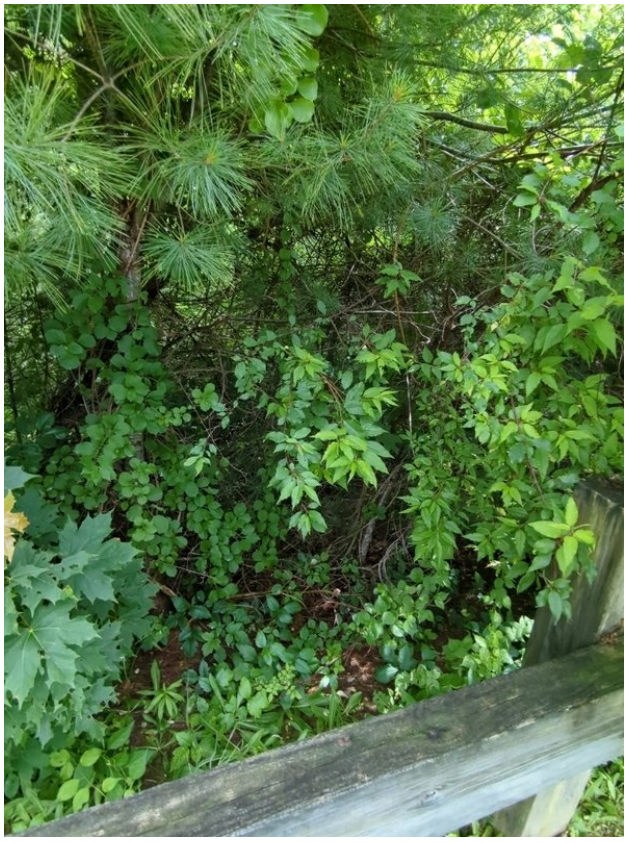
General BMP Information

BMP ID	BMP-44
Location	South of Bancroft road

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The BMP has been fully naturalized. Due to the overgrown vegetation, the inlet structures are difficult to access. From afar, there appears to be some sediment buildup at the mouth of the inlet. Little to no riprap remaining.
Recommendations	Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended. Minor amount of trash observed; remove trash.

Asset Photos



General Observations

Notes	Routine maintenance such as pruning and mowing is recommended.

Overall Photos

BMP-45

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 19:22:12 UTC by EPField 01
Location	42.1239011311, -71.0838639596
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	12:47
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	10 James Massey Lane Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-45
Location	Corner of Christie Murphy Dr and James Massey Ln

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Minor amount of trash observed. Verify with Town what kind of proprietary separator this is. Unsure what kind this is. Routine maintenance such as cleaning is recommended per O&M manual.

Asset Photos

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	BMP has become fully naturalized. Sediment buildup within the basin and erosion along the slopes of the basin observed. Significant sediment buildup and overgrown and fallen trees impeding the inlet structure observed. Towards the end of the channel, riprap is missing and should be refreshed and replenished.
Recommendations	Remove dead and overgrown and fallen trees impeding the inlet structure. Refresh/clean and replenish riprap where needed.
Asset Photos	

General Observations

Notes	Routine maintenance such as cleaning and pruning is recommended.

Overall Photos

BMP-47

Created	2023-04-06 19:18:26 UTC by EPField 01
Updated	2023-07-07 19:25:27 UTC by EPField 01
Location	42.1100360502, -71.0765158605
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	10:53
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	60 Bergeron Way Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-47
Location	Bergeron Way

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some trash observed within the unit.
Recommendations	Remove trash. Additionally, routine maintenance such as cleaning is recommended per the Hydro International O &M plan.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Trash buildup is observed along the edge of the basin. Riprap around overflow and overflow outlet need cleaning or replacement.
Recommendations	Remove trash. Refresh/clean and replenish riprap.
Asset Photos	

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant overgrown and dead vegetation found within and around the forebay.
Recommendations	Refresh/clean and replenish riprap.
Asset Photos	

General Observations

Notes	Overall, the BMP is in fair condition. Routine maintenance is recommended per the Hydro International O&M plan. Routine pruning and cleaning is recommended as well from the basin.

Overall Photos

BMP-51

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 19:33:21 UTC by EPField 01
Location	42.1637845822, -71.0666581939
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	10:35
Weather	Clear
Field Staff	Karen Chan
Address	70 Drinkwater Avenue Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-51
Location	Right on town line

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized. Significant sediment buildup at the mouth of the inlet structure and the base of the basin. No riprap remaining. Some standing water at the mouth of the structure but that may be from the rain from earlier in the day. Some trash.
Recommendations	Remove trash and sediment in front of the inlet structure. Replenish riprap at the inlet structure. Remove trash. Routine pruning recommended.

Asset Photos

General Observations

Notes	Routine pruning recommended.

Overall Photos

BMP-52

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 19:35:57 UTC by EPField 01
Location	42.130197089, -71.0894162905
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	07:45
Weather	Clear, Warm
Field Staff	Karen Chan
Address	111 Richard Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-52
Location	SE of 55 Vieve Ave

Pretreatment - Sediment Forebay

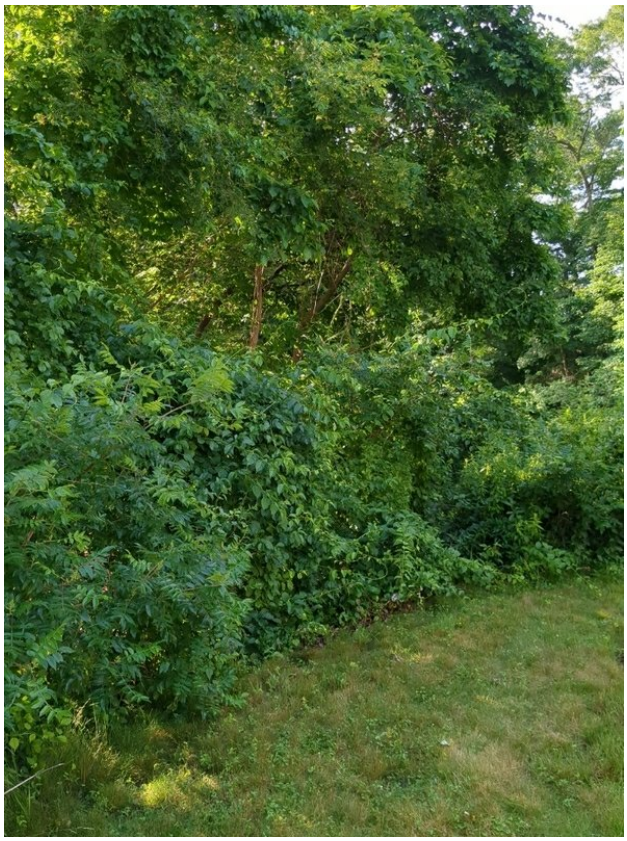
BMP Type	Pretreatment - Sediment Forebay
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	There is significant overgrown vegetation and leaf litter. With the amount of vegetation and leaf litter, could not locate where sediment forebay is. The area has been fully naturalized. Dead and fallen trees surround the basin and forebay.
Recommendations	Remove overgrown and dead vegetation and leaf litter. Routine maintenance such as pruning is recommended. Refresh/clean and replenish riprap. Based on the significant amount of vegetation on the forebay, it is difficult to gauge if there is any riprap left.

Asset Photos

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized . The perimeter of the basin still has significant growth but looks better maintained. Significant leaf litter on top of riprap; unclear if there is any left.
Recommendations	Cut back dead and overgrown trees and vines. The inlet pipe is not blocked but continue to clean the area to allow proper stormwater flow. Routine maintenance such as pruning and mowing is recommended. Replenish riprap.

Asset Photos



General Observations

Notes	Routine pruning recommended.
Overall Photos	

BMP-53

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 19:38:36 UTC by EPField 01
Location	42.1481068486, -71.0845593119
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	11:24
Weather	Clear
Field Staff	Karen Chan
Address	52 Pondview Lane Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-53
Location	Between 39 Hana Dr and 52 Pondview Ln

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	The basin is fully naturalized. Due to the overgrowth, I could not locate the inlet or outlet structures.
Recommendations	Remove any vegetation that is covering the inlet and outlet structures to allow proper stormwater flow. Replenish riprap. Routine maintenance such as pruning is recommended.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning is recommended.
Overall Photos	

BMP-54

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 19:49:41 UTC by EPField 01
Location	42.1309268267, -71.1211375442
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	16:10
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1550 Central Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-54
Location	Parking lot of the Fire Department; in front of the garage on the western side of the building.

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	5 gallery ports opened. BMP appears to be functioning properly. Routine maintenance such as cleaning is recommended per O&M plan.

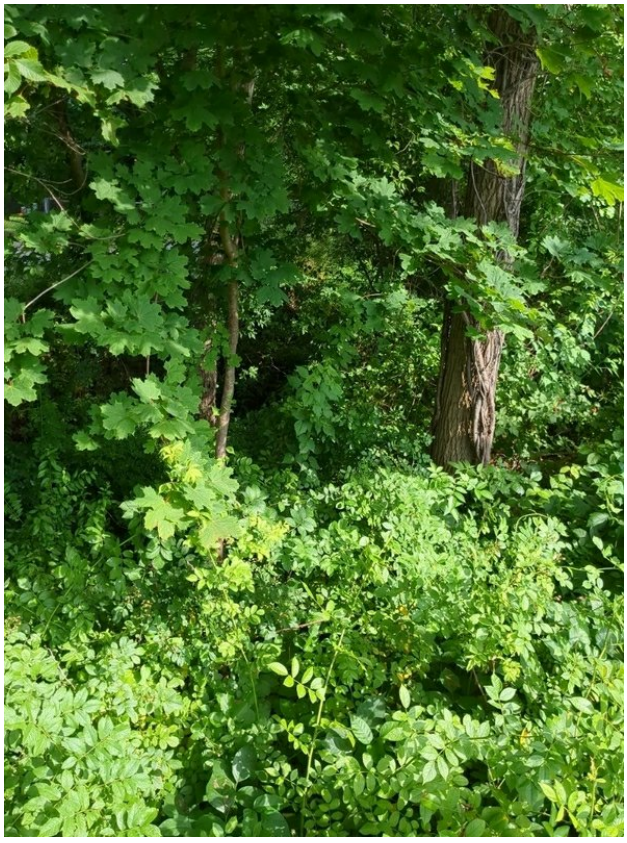
Asset Photos

3
2
1

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Erosion and sediment buildup observed along the slopes of the basin.
Recommendations	Routine pruning and cleaning recommended.

Asset Photos



Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator

Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Routine maintenance such as cleaning per O&M plan is recommended. No immediate maintenance need.
Asset Photos	

General Observations

Notes	Routine maintenance such as cleaning and pruning recommended
Overall Photos	

3
4
5
1
2

BMP-59

Created	2023-04-06 19:18:27 UTC by EPField 01
Updated	2023-07-07 19:53:06 UTC by EPField 01
Location	42.116778325, -71.0925687893
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	13:44
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	236 Sumner Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-59
Location	North of Bancroft Rd

Treatment - Extended Dry Detention Basin

BMP Type	Treatment - Extended Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The residents keep this BMP maintained to an extent. Little to no riprap remaining at the bottom of the inlet structure.
Recommendations	Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning is recommended.
Overall Photos	

BMP-60

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-07-07 19:57:30 UTC by EPField 01
Location	42.1533292439, -71.082301827
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	11:05
Weather	Clear
Field Staff	Karen Chan
Address	33 Freely Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-60
Location	Between 33 and 21 Freely Drive

Pretreatment - Oil/Grit Separator

BMP Type	Pretreatment - Oil/Grit Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Excessive vegetation around the structure observed. Area around the structure should be routinely and pruned. The oil/grit separator appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M plan.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The BMP has 2 separate chambers, but both appear to have water and vegetation. Could not locate the inlet structures.
Recommendations	Trash should be removed. Replenish riprap and allow access to inlet structures. Routine pruning and mow is recommended.
Asset Photos	

General Observations

Notes	Routine pruning and mow is recommended.

Overall Photos

BMP-61

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-07-07 19:59:27 UTC by EPField 01
Location	42.1628209635, -71.0655935709
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	10:26
Weather	Clear
Field Staff	Karen Chan
Address	461 West Street Randolph, Massachusetts 02368
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-61
Location	Corner of Drinkwater Ave and Willow St

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The BMP has become naturalized. Sediment buildup and some erosion observed at the base of the base and along the slopes of the basin. Due to the amount of vegetation and leaf litter found within the basin, could not locate the inlet structure.
Recommendations	Remove trash. Remove vegetation and make inlet structure accessible.

Asset Photos

General Observations

Notes	Routine pruning and mow is recommended.
Overall Photos	

BMP-63

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-07-07 20:01:32 UTC by EPField 01
Location	42.1339029372, -71.0925974814
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	08:12
Weather	Clear, Warm
Field Staff	Karen Chan
Address	750 Central Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-63
Location	Corner of main road and side street, behind fence

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin is fenced in, therefore, inspection could only be done from the outside of the fence. The basin has been fully naturalized, with pine trees growing in the basin. From afar, it appears that there is a significant amount of sediment buildup at the bottom of the basin. There is a minor amount of trash around the fence but does not appear to be entering the basin. Dead pine leaves and leaves observed throughout the basin.
Recommendations	Maintain tree growth with routine pruning. Due to the basin being enclosed, it is unclear if there is any riprap at the base of the inlet structures. EP attempted to enter the basin but the significant overgrown vegetation did not allow the fence door to open. Refresh/clean and replenish riprap where needed. Remove trash.

Asset Photos

General Observations

Notes	Routine pruning and cleaning recommended.
Overall Photos	

BMP-64

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-06-28 13:50:23 UTC by EPField 01
Location	42.10452908019216, -71.07978899650655
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	09:44
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	30 Chase Run Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-64
Location	Located in the woods behind #30 Chase Run.

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant overgrown and dead vegetation. Dead and fallen trees are impeding the inlet structure.Leaves and sediment have clogged riprap and for base of channel. Riprap between adjacent basin and channel needs to be replaced. Channel may need to be regraded.
Recommendations	Remove dead and overgrown vegetation and trash. Remove the fallen trees in front of the inlet structure to allow proper stormwater flow. Refresh/clean and replenish riprap where needed.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as cleaning and pruning is recommended. Refresh/clean and replenish riprap where needed.

Overall Photos

BMP-65

Created	2023-04-06 19:18:28 UTC by EPField 01
Updated	2023-06-23 17:54:15 UTC by EPField 01
Location	42.128636234347695, -71.11132494668274
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:49
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	200 Cushing Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-65
Location	High School

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Compared to last year's inspection, the amount of trash within the structure has significantly reduced. There are still some minor amounts of trash with the structure.
Recommendations	Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Asset Photos

Infiltration - Subsurface Structure

BMP Type	Infiltration - Subsurface Structure

Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	There is no observation port to inspect the unit.
Asset Photos	

General Observations

Notes	Overall in good condition. Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.
Overall Photos	

BMP-67

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 20:07:21 UTC by EPField 01
Location	42.1000429506, -71.078017803
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	08:17
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	13 Fords Run Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-67
Location	Between/behind 13 & 9 Fords Run

Conveyance - Drainage Channel

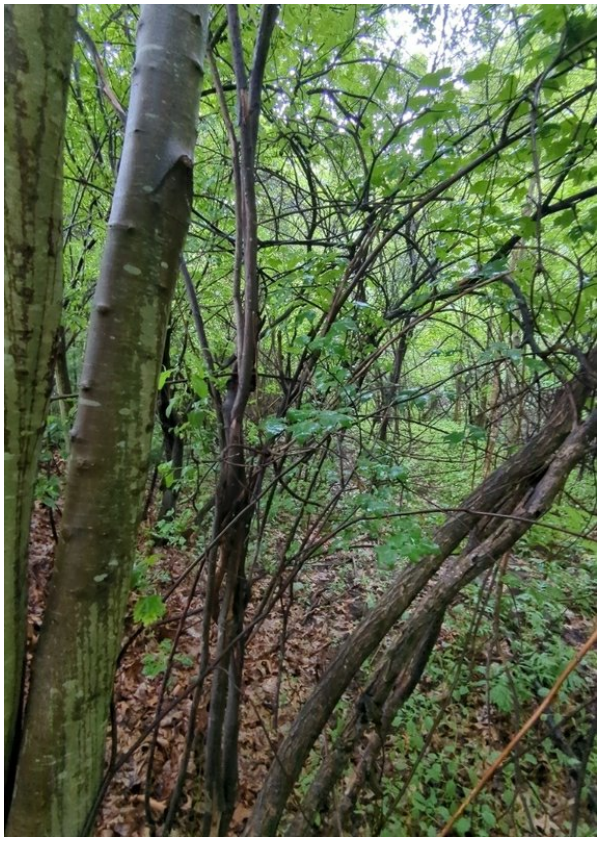
BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some sediment buildup and dead vegetation observed at the mouth of the inlet and throughout the channel. Some trash is seen throughout the channel.
Recommendations	Remove dead vegetation and trash. Refresh/clean and replenish riprap where needed.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Sediment buildup and erosion observed on the base of the basin and along the slopes of the basin. Minor amount of trash observed.
Recommendations	Remove trash. Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.

Asset Photos



General Observations

Notes	Overall, the BMP is in fair condition. Routine maintenance such as cleaning and pruning is recommended.
Overall Photos	

BMP-69

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 20:10:12 UTC by EPField 01
Location	42.1042798829, -71.0793728439
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	09:24
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	16 Penniman Court Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-69
Location	Located between #24, and #16 Penniman Circle, about 100ft back into the woods.

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	N/A
Was oil/grease observed?	N/A
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	N/A
Was trash/debris observed?	N/A
Was standing water observed where it should not be?	N/A
Was the inlet/outlet in poor condition?	N/A
Describe Deficiencies Noted	Due to the significant overgrown vegetation, EPG could not locate the conveyance drainage channel.
Recommendations	Remove significant overgrown vegetation to allow access and stormwater flow. Refresh/clean and replenish riprap. Routine maintenance such as pruning is recommended.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	The basin has become fully naturalized. Accessing the basin was difficult due to the amount of dead and fallen trees. Soil erosion and sediment buildup found along the slopes of the basin and within the basin. . Grass clippings observed around the basin suggesting residents may be dumping their lawn clipping at the basin. Minor amount of trash observed.
Recommendations	Routine maintenance such as pruning is recommended to allow access to both the drainage channel inlet structure and to the basin. Remove trash.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning and cleaning is recommended.

Overall Photos

BMP-70

Created	2023-04-06 19:18:29 UTC by EPField 01
Updated	2023-07-07 20:12:21 UTC by EPField 01
Location	42.1373064627, -71.0764611951
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	09:08
Weather	Clear, Warm
Field Staff	Karen Chan
Address	1101 Turnpike Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-70
Location	1101 Turnpike Street

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Minor amount of trash but appears to be functioning properly. Routine maintenance such as cleaning per the Vortechnics O&M plan.

Asset Photos

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant amount of sediment buildup and dead branches within the channel. Little to no riprap remaining.
Recommendations	Replenish riprap. Remove trash, though minor.

Asset Photos

General Observations

Notes	Vortechnics units are functioning properly. Drainage channel requires significant maintenance.

Overall Photos

BMP-71

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-07 20:14:23 UTC by EPField 01
Location	42.1431116952, -71.0767673984
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	08:55
Weather	Clear, Warm
Field Staff	Karen Chan
Address	988 Pleasant Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-71
Location	In the fenced in area to the east of a small parking lot off of Pleasant St.

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin is mostly naturalized. There is some sediment buildup at the mouth of the inlet structure. The fenced in portion of the basin is maintained.
Recommendations	Continue routine maintenance such as mowing within the fenced in area. Replenish riprap.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning and mowing is recommended.

Overall Photos

BMP-72

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-07 20:15:45 UTC by EPField 01
Location	42.0997715729, -71.0758430526
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	08:44
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	17 Fords Run Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-72
Location	In the woods about 450 feet southeast from Fords Run.

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The wet basin has been fully naturalized. Dead leaves are observed at the grate of the inlet structure. Algae growth found on the riprap/sediment forebay leading into the wet basin and within the basin itself.
Recommendations	Routine maintenance such as cleaning, mowing and pruning is recommended. Remove dead leaves on the grate of the inlet structure. Refresh/clean and replenish riprap.

Asset Photos

General Observations

Notes	Routine maintenance such as cleaning, mowing and pruning is recommended.
Overall Photos	

BMP-73

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-06-23 17:21:18 UTC by EPField 01
Location	42.12924529507479, -71.10982168829233
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:19
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	232 Pearl Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-73
Location	Northwest corner of Stoughton High School

Infiltration - Subsurface Structure

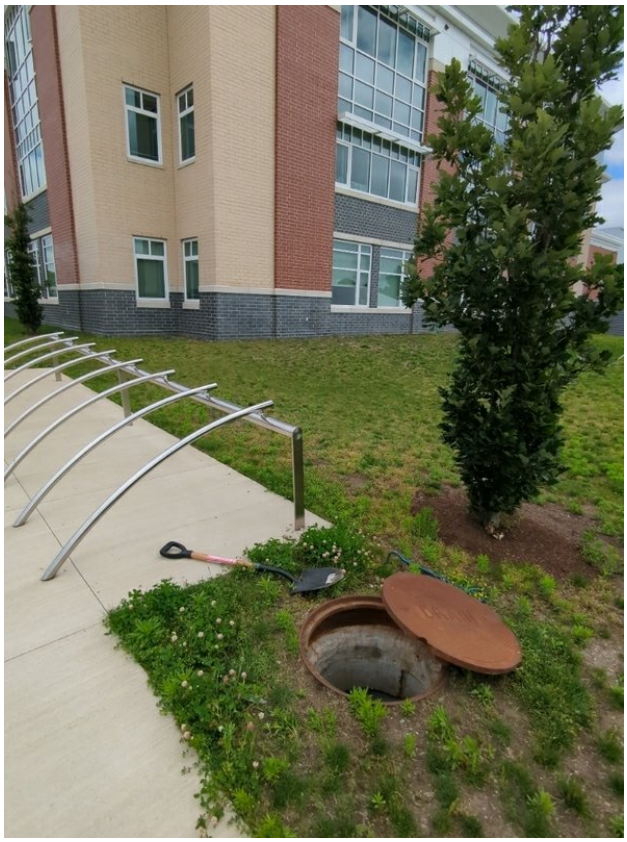
BMP Type	Infiltration - Subsurface Structure
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	BMP appears to be functioning as designed. Manhole before subsurface unit has weir. Routine maintenance such as cleaning is recommended per O&M plan.

Asset Photos

General Observations

Notes	Overall in good condition. Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Overall Photos



BMP-75 (Could not locate)

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-10 13:37:43 UTC by EPField 01
Location	42.1288067887, -71.1111832253
Status	Incomplete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:57
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	211 Cushing Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-75 (Could not locate)
Location	High School

General Observations

Notes	During the inspection, BMP-75 could not be located. It is assumed that the manhole is buried.
Overall Photos	

BMP-76

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-06-23 17:14:26 UTC by EPField 01
Location	42.12876457740006, -71.1101800616805
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:12
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1600 Pennsylvania Avenue Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-76
Location	Behind the High School, in the back parking lot.

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Asset Photos

General Observations

Notes	Overall in good condition. Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Overall Photos

DRAIN

BMP-78

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-07 20:17:32 UTC by EPField 01
Location	42.0740803465, -71.1361210938
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	08:12
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	73 Cleary Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

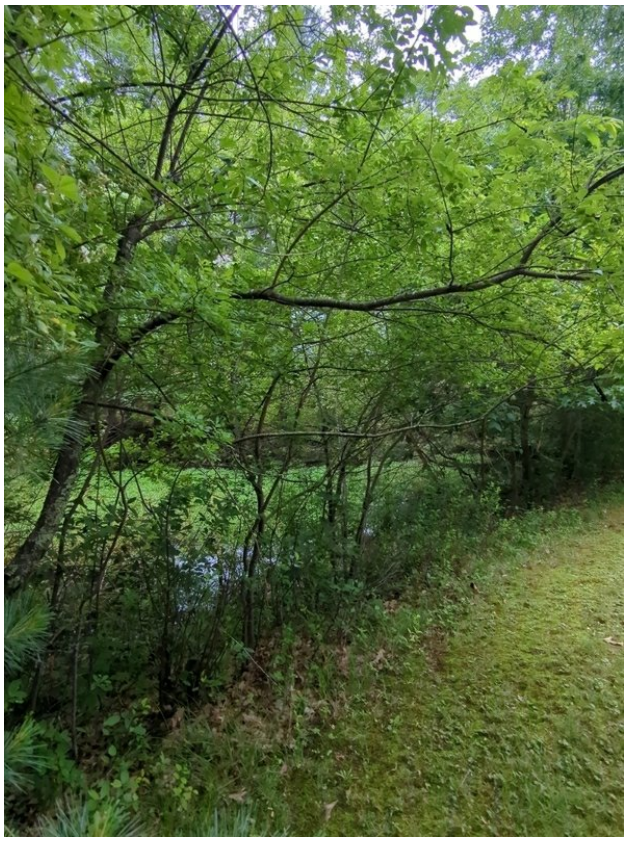
General BMP Information

BMP ID	BMP-78
Location	Between 66 and 73 Cleary Dr

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The water level is not as high as last year. Minor amount of trash observed.
Recommendations	Routine maintenance such as cleaning, mowing and pruning is recommended. Remove trash. Refresh/clean and replenish riprap.

Asset Photos



General Observations

Notes	Overall, BMP is in fair condition and routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-79

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-07 20:21:42 UTC by EPField 01
Location	42.0750494857, -71.1338257604
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	08:21
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	16 Lanes End Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-79
Location	BMP wraps around houses on Cleary Dr and Lanes End

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some overgrown vegetation along the channel. Sediment buildup observed within the channel, within the riprap of the channel. The inlet is partially obstructed by overgrown vegetation. Some trash observed.
Recommendations	Remove overgrown vegetation and refresh/clean and replenish riprap. Remove trash.

Asset Photos

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some trash. Some deposits on riprap leading into the outlet control structure.
Recommendations	Refresh/clean and replenish riprap . Remove trash.
Asset Photos	

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant dead vegetation observed.
Recommendations	Remove woody vegetation from rip rap pad.
Asset Photos	

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Dead vegetation and sediment buildup observed at the mouth of the outlet. Organic material observed in riprap.
Recommendations	Remove overgrown vegetation and refresh/clean and replenish riprap.
Asset Photos	

General Observations

Notes	Overall, BMP is fair condition. Routine maintenance such as pruning and cleaning is recommended. Refresh/clean and replenish riprap where needed is also recommended.
Overall Photos	

BMP-80

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-06-23 13:03:04 UTC by EPField 01
Location	42.07661354625034, -71.13207727470333
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	08:52
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	154 Eagle Rock Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-80
Location	Behind 154 Eagle Rock Rd

Treatment - Extended Dry Detention Basin

BMP Type	Treatment - Extended Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant overgrown and dead vegetation observed. Sediment buildup at the mouth of the inlet structure is observed. Minor amount of trash within the basin observed. Some debris found within riprap towards the entrance of the outlet control structure.
Recommendations	Remove dead and overgrown vegetation. Refresh/clean and replenish riprap where needed. Reseed and restabilization of the slopes of the basin as needed and as detailed in the site plans.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning and cleaning is recommended. Riprap should be refreshed/cleaned and replenished where needed.

Overall Photos

BMP-81

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-10 12:29:16 UTC by EPField 01
Location	42.0772876528, -71.1323590897
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	09:13
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	150 Eagle Rock Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-81
Location	Between and behind 150 and 146 Eagle Rock Rd

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant overgrown and dead vegetation observed at the mouth of the inlet. Sediment buildup at the mouth of the inlet is also observed. If riprap is part of the design, there is no riprap left. Minor amount of trash observed.
Recommendations	Remove overgrown and dead vegetation in front of the inlet structure. Remove trash. Replenish riprap.

Asset Photos

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some trash observed within the basin. Erosion along the slopes of the basin.
Recommendations	Remove trash. Restabilize the slopes of the basin. Routine maintenance such as pruning and cleaning is recommended.
Asset Photos	

General Observations

Notes	Routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-82

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-10 12:41:39 UTC by EPField 01
Location	42.0786641935, -71.1334811646
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	09:26
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	120 Eagle Rock Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-82
Location	120 Eagle Rock Road

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some grass clippings observed. Sediment buildup within riprap and at the mouth of the inlet is observed. Minor amount of trash observed.
Recommendations	Remove grass clippings. Remove trash. Refresh/clean and replenish riprap.

Asset Photos

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some trash is observed. Grass clippings and erosion along the slopes of the basin are also observed.
Recommendations	Remove grass clippings and trash. Refresh/clean riprap and replenish riprap. Restabilize the slopes of the basin.
Asset Photos	

General Observations

Notes	Routine maintenance such as pruning and cleaning is recommended. Refresh/clean and replenish riprap.
Overall Photos	

BMP-83

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-10 12:45:42 UTC by EPField 01
Location	42.1027894566, -71.1296347334
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	11:49
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	66 Kevin Clancy Way Stoughton, Massachusetts 02072
Type of Inspection	Regular

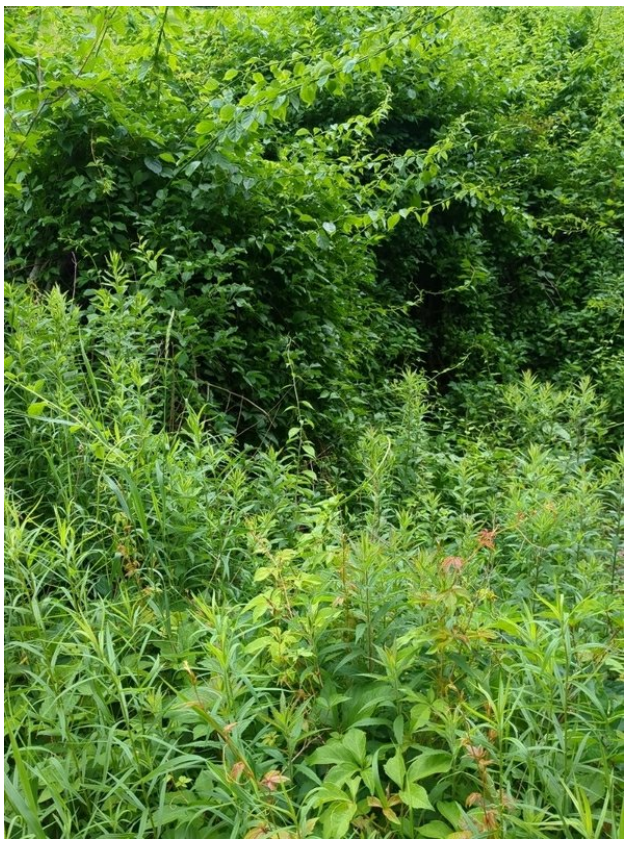
General BMP Information

BMP ID	BMP-83
Location	Between 66 and 38 Kevin Clancy Way

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	The inlet and outlet structures do have some overgrown vegetation in front of it but not as significant. Some trash.
Recommendations	Remove trash. Routine pruning is recommended. Riprap should be refreshed/cleaned and replenished.

Asset Photos



General Observations

Notes	Routine maintenance such as pruning and cleaning is recommended. Riprap should be refreshed/cleaned and replenished.
Overall Photos	

BMP-84

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-10 12:51:45 UTC by EPField 01
Location	42.124028166, -71.0797281446
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	11:37
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	246 Curtis Avenue Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-84
Location	Access from William Kelley Road cup-de-sac

Conveyance - Drainage Channel

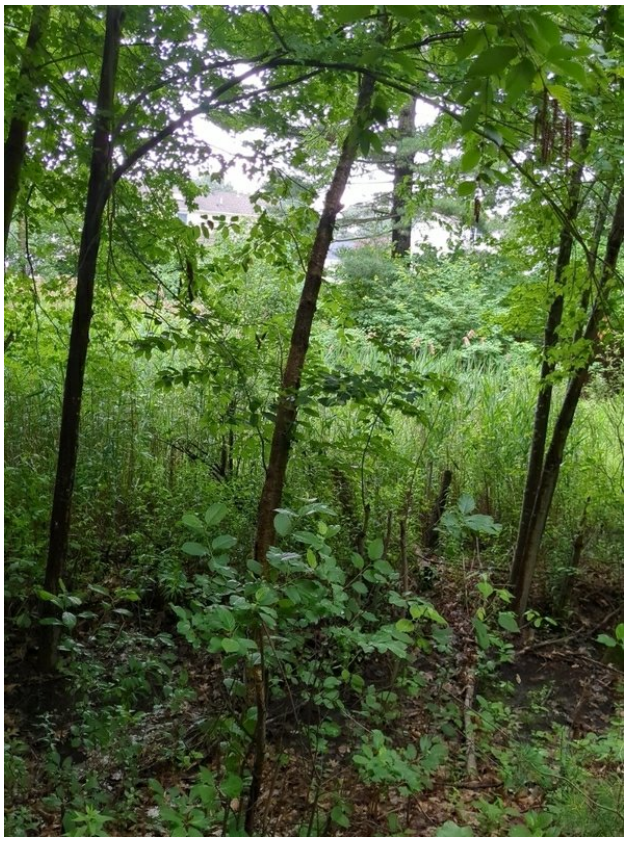
BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Sediment and some leave litter buildup observed. Riprap is either filled with sediment or needs to be replenished/refreshed.
Recommendations	Refresh/clean and replenish riprap. Routine maintenance such as pruning and cleaning is recommended.

Asset Photos

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized. Sediment buildup and erosion observed both within and along the banks of the basin. The structure/headwall towards the back of the basin is filled with leaves.
Recommendations	Restabilize the slopes of the basin. Routine maintenance such as pruning and mowing is recommended. Remove leaves/debris from inlet and outlet structures to allow proper stormwater flow. Refresh/clean and replenish riprap.
Asset Photos	



General Observations

Notes	Overall BMP is in fair condition. Routine maintenance such as pruning is recommended.
Overall Photos	

BMP-85

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-10 12:57:54 UTC by EPField 01
Location	42.1244950879, -71.0819240202
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	12:00
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	57 Tamarack Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-85
Location	Large basin behind 3 houses

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant sediment and overgrown vegetation in front of the inlet structure. Full grown trees are blocking the inlet structure. There is little to no riprap remaining within the channel.
Recommendations	Trim back the overgrown trees to allow access to the inlet structure and to allow proper stormwater flow. Refresh/clean and replenish riprap.

Asset Photos

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant dead vegetation and some leaves found within riprap. Minor amount of trash observed.
Recommendations	Refresh/clean and replenish riprap. Remove trash.
Asset Photos	

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	4 - System not operating as designed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has been fully naturalized. Trash along the banks of the basin observed.
Recommendations	Remove trash. Routine maintenance such as pruning is recommended.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning is also recommended.
Overall Photos	

BMP-86

Created	2023-04-06 19:18:30 UTC by EPField 01
Updated	2023-07-10 12:59:59 UTC by EPField 01
Location	42.1134863972, -71.0655480443
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	11:19
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	139 Shuman Avenue Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-86
Location	Edge of Shuman, side of warehouse

Treatment - Extended Dry Detention Basin

BMP Type	Treatment - Extended Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	The catch basin adjacent to the basin is no longer covered by vegetation, however, the inlet structure/headwall is partially covered by overgrown vegetation. Some trash observed.
Recommendations	Routine pruning and mowing is recommended. Routine cleaning and removal of trash is also recommended. Remove overgrown vegetation in front of the inlet structure/headwall and catch basin is recommended to all proper stormwater flow.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning and mowing is recommended.
Overall Photos	

BMP-90

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-06-23 17:05:59 UTC by EPField 01
Location	42.130134787018456, -71.10886126756668
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:03
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	232 Pearl Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-90
Location	In between the soccer field and football stadium. Located in front of the speed bump.

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Asset Photos

General Observations

Notes	Overall, BMP is in good condition. Routine maintenance such as cleaning is recommended per the O&M manual.

Overall Photos

BMP-91

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-10 13:06:38 UTC by EPField 01
Location	42.0781133717, -71.1287791735
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	09:41
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	33 Fosters Run Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-91
Location	Around the property of 33 Fosters Run

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Significant sediment buildup and no riprap remaining at the mouth of the inlet. Little to no riprap observed within the drainage channel.
Recommendations	Refresh/clean riprap and replenish. Routine pruning and cleaning recommended.

Asset Photos

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Sediment buildup is observed at the base of the basin and some erosion along the slopes of the basin is observed. Some trash observed throughout the basin.
Recommendations	Remove trash. Routine pruning and cleaning is recommended.
Asset Photos	

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as cleaning and pruning is recommended. Refresh/clean and replenish riprap where needed is also recommended.
Overall Photos	

BMP-92

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-10 13:09:20 UTC by EPField 01
Location	42.1231790447, -71.132714176
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	14:24
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	87 Woodpecker Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-92
Location	Between Woodpecker Rd and Powell St

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized.
Recommendations	Routine pruning and mowing is recommended. Refresh/clean and replenish riprap.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning is recommended.

Overall Photos

BMP-93

Created	2023-04-06 19:18:31 UTC by EPField 01
Updated	2023-07-10 13:15:35 UTC by EPField 01
Location	42.0899296805, -71.1341329002
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	10:00
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	52 Jordan Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-93
Location	Cul-de-sac of Jordan Drive

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	Significant overgrown and dead vegetation and sediment buildup in front of the inlet structure. Dead vegetation is impeding the inlet, limiting access to the structure. There is some standing water and dead leaves at the mouth of the outlet structures. Little to no riprap remaining at all the structures.
Recommendations	Remove dead and overgrown vegetation at the inlet and outlet structures. Access to the outlet was difficult due to dead and fallen trees. Trim back and remove trees to allow access and proper stormwater flow. Refresh/clean and replenish riprap.

Asset Photos

Treatment - Extended Dry Detention Basin

BMP Type	Treatment - Extended Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	Yes
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Sediment buildup within the base of the basin is observed. The outlet from the conveyance channel has some standing water and sediment buildup.
Recommendations	Remove dead and fallen trees leading to outlet as access to outlet was rather difficult. Routine maintenance such as pruning and cleaning is recommended.

Asset Photos

General Observations

Notes	Routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-94

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-10 13:22:40 UTC by EPField 01
Location	42.1141449728, -71.112581274
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	15:40
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	15 Hunt Drive Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-94
Location	Behind 11 Hunt

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	The basin has become fully naturalized. Sediment buildup within the basin and at the mouth of the inlet structure is observed. Little to no riprap remaining in front of the inlet structure.
Recommendations	Refresh/clean and replenish riprap. Remove trash. Remove dead vegetation in front of the inlet structure.

Asset Photos

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Dead leaves seen within the riprap of forebay.
Recommendations	Refresh/clean and replenish riprap.

Asset Photos

General Observations

Notes	Overall in fair condition. Routine maintenance such as pruning and cleaning is recommended.

Overall Photos

BMP-95

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-10 13:25:01 UTC by EPField 01
Location	42.1126418499, -71.107572653
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-28
Time	15:30
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	41 Whitney Avenue Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-95
Location	Corner of Whitney and Whitten

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead vegetation and some sediment buildup within forebay. Overall in good condition.
Recommendations	Remove dead and overgrown vegetation. Refresh/clean and replenish riprap.

Asset Photos

Infiltration - Infiltration Basin

BMP Type	Infiltration - Infiltration Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead leaves are observed at the mouth of the inlet pipe structure. Overall in good condition.
Recommendations	Routine maintenance such as pruning and cleaning is recommended. Remove dead and overgrown vegetation in front of inlet structure.

Asset Photos

General Observations

Notes	Overall in good condition. Routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-96

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-06-23 17:34:36 UTC by EPField 01
Location	42.12915895141606, -71.11112140401175
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	13:33
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	205 Cushing Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-96
Location	High School

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Hydro-Int Downstream Defender. BMP appears to be functioning properly. Routine maintenance such as cleaning is recommended per O&M plan

Asset Photos

General Observations

Notes	Overall in good condition. Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the O&M manual.

Overall Photos

BMP-100

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-07 13:54:16 UTC by EPField 01
Location	42.08959990715514, -71.11653956323401
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	10:33
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1670 West Street Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-100
Location	West Street

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Sediment buildup within riprap and some dead and overgrown vegetation observed in front of the inlet structure. Minor amount of trash observed.
Recommendations	Routine pruning and mowing is recommended. Remove sediment in front of the inlet structure. Refresh/clean and replenish riprap where needed.

Asset Photos

Unknown

BMP Type	Unknown
Overall Condition	4- Buried, could not perform inspection.
Was excess sedimentation observed?	N/A
Was oil/grease observed?	N/A
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	N/A
Was standing water observed where it should not be?	N/A
Was the inlet/outlet in poor condition?	N/A
Recommendations	Town assistance needed to expose structure. There is a manhole upstream of the conveyance channel that is buried under significant debris. EPG attempted to expose the structure but had little success. Once exposed, inspection and BMP type can be identified.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-103

Created	2023-04-06 19:18:33 UTC by EPField 01
Updated	2023-06-29 12:46:47 UTC by EPField 01
Location	42.140540960936505, -71.09257104078097
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-29
Time	08:28
Weather	Clear, Warm
Field Staff	Karen Chan
Address	50 Brad Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-103
Location	Dawes School

Infiltration - Infiltration Trench

BMP Type	Infiltration - Infiltration Trench
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some leaves and branches with riprap. Some erosion seen at the end of the riprap, but otherwise in good condition. Overgrown vegetation around the area.
Recommendations	Remove leaves and branches. Refresh/clean riprap. Routine maintenance such as pruning around the basin is recommended.

Asset Photos

Pretreatment - Proprietary Separator

BMP Type	Pretreatment - Proprietary Separator
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	Yes
Were invasive species, excess vegetation, and/or dead vegetation observed?	No
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No

Recommendations	There is an oil sheen at the top of the standing water but may be the purpose of the Hydro International unit. Appears to be functioning properly. Routine maintenance such as cleaning is recommended per the Hydro International O &M manual.
Asset Photos	

General Observations

Notes	Overall, BMP is in good condition. Routine maintenance such as cleaning and pruning is recommended.
Overall Photos	

MADE IN USA

BMP-104

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-07 14:42:53 UTC by EPField 01
Location	42.1131002001, -71.1344251695
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	14:39
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1095 Bay Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-104
Location	Muddy Pond Water Treatment Building

Conveyance - Grassed Channel (Biofilter Swale)

BMP Type	Conveyance - Grassed Channel (Biofilter Swale)
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Some dead leaves observed throughout channel. Otherwise, in good condition.

Asset Photos

Treatment - Bioretention Area / Rain Garden

BMP Type	Treatment - Bioretention Area / Rain Garden

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead vegetation and sediment buildup at the bottom of the basin is observed. Erosion along the slopes of the basin observed. Sediment buildup observed along the edge of the basin, within riprap.
Recommendations	Remove dead vegetation within and around the basin. Side slopes of bioretention area should be reseeded. Refresh /clean and replace riprap where needed. Routine maintenance such as pruning is recommended.
Asset Photos	

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning is recommended.
Overall Photos	

BMP-105

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-07 14:59:31 UTC by EPField 01
Location	42.1128033871, -71.1343454659
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	14:46
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1095 Bay Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-105
Location	Muddy Pond Water Treatment Building

Pretreatment - Sediment Forebay

BMP Type	Pretreatment - Sediment Forebay
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead vegetation observed within the riprap of forebay. Some grass growing through the forebay.
Recommendations	Refresh/clean riprap and replenish where needed. Routine maintenance such as cleaning of the beehive grate structure is recommended.

Asset Photos

Other - Dry Detention Basin

BMP Type	Other - Dry Detention Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Some dead vegetation and sediment buildup observed at the base of the basin. Erosion along the slopes of the basin is observed.
Recommendations	Remove dead vegetation. Reseed and restabilization of the slopes of the basin as needed and as detailed in the site plans.

Asset Photos

Conveyance - Grassed Channel (Biofilter Swale)

BMP Type	Conveyance - Grassed Channel (Biofilter Swale)

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	N/A
Describe Deficiencies Noted	Significant dead leaves and grass observed throughout the channel. Erosion along the slopes of the channel is also observed.
Recommendations	Remove dead vegetation and reseed as needed and as detailed in site plans.
Asset Photos	

KOHLER

General Observations

Notes	Overall, the BMP is in good condition. Routine maintenance such as pruning and cleaning is recommended.
Overall Photos	

BMP-106

Created	2023-04-06 19:18:32 UTC by EPField 01
Updated	2023-07-07 15:17:03 UTC by EPField 01
Location	42.113036344, -71.134084038
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	14:59
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	1095 Bay Road Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-106
Location	Muddy Pond Water Treatment Building

Conveyance - Grassed Channel (Biofilter Swale)

BMP Type	Conveyance - Grassed Channel (Biofilter Swale)
Overall Condition	1 - System operating as designed - No issues
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	No
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Recommendations	Some dead grass seen within riprap of the check dams. Otherwise, in good condition.

Asset Photos

Conveyance - Drainage Channel

BMP Type	Conveyance - Drainage Channel

Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	Yes
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	No
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	Yes
Describe Deficiencies Noted	Significant sediment buildup and dead grass and leaves at the mouth of the inlet structure. Dead grass seen throughout the channel.
Recommendations	Remove dead vegetation and sediment from inlet structure to all proper stormwater flow. If riprap is needed in drainage channel, replenish where needed. Remove trash.
Asset Photos	

General Observations

Notes	Routine maintenance is recommended such as pruning and cleaning.
Overall Photos	

BMP-108

Created	2023-04-06 19:18:33 UTC by EPField 01
Updated	2023-07-07 15:20:48 UTC by EPField 01
Location	42.1036116439, -71.1266950402
Status	Complete

General Site Visit Information

Client	Town of Stoughton
Date	2023-06-23
Time	11:36
Weather	Overcast, Warm
Field Staff	Karen Chan
Address	76 Grace Lane Stoughton, Massachusetts 02072
Type of Inspection	Regular

General BMP Information

BMP ID	BMP-108
Location	76 Grace Lane

Treatment - Wet Basin

BMP Type	Treatment - Wet Basin
Overall Condition	2 - System operating as designed - Maintenance needed
Was excess sedimentation observed?	No
Was oil/grease observed?	No
Were invasive species, excess vegetation, and/or dead vegetation observed?	Yes
Was erosion observed?	Yes
Was trash/debris observed?	Yes
Was standing water observed where it should not be?	No
Was the inlet/outlet in poor condition?	No
Describe Deficiencies Noted	Could not locate the inlet structure to this basin due to the overgrown vegetation. Some trash found within the basin and along the edge of the basin.
Recommendations	Remove trash. Remove overgrown vegetation in front of inlet structure to allow proper stormwater flow. Routine maintenance such as pruning and cleaning is recommended.

Asset Photos

General Observations

Notes	Overall, BMP is in fair condition. Routine maintenance such as pruning and cleaning is recommended.

Overall Photos

APPENDIX P

Year 4 MCM-5 Memos

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: June 27, 2022

To Marc Tisdelle, PE, Executive Director of Development Services/Town Engineer

From Scott Turner, PE, AICP, LEED AP ND, Environmental Partners

Subject: **Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit Impervious Surface Memorandum**

Introduction

This memorandum is regarding Section 2.3.6.b of the Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit. This section requires permittees to "develop a report assessing local current street design and parking lot guidelines that affect the creation of impervious cover." This assessment shall be used to provide information to allow the permittee to determine if changes to design standards for streets and parking lots can be made to support low impact design options."

Environmental Partners, at the request of the Town of Stoughton, has reviewed Stoughton's existing local regulations that affect the creation of impervious cover. Specifically, Environmental Partners reviewed the following development regulations:

- Chapter 159 Stormwater Management.
- Rules & Regulations for Stormwater Management adopted 2021.
- Town of Stoughton, Massachusetts Zoning By-Law and Map, as amended through December 2, 2020.
- Chapter 191 Wetlands Protection Bylaw
- Town of Stoughton Non-Zoning Wetlands Protection By-Law Regulations, approved July 12, 2012.
- Town of Stoughton Land Subdivision Regulations, Dated February 17, 1999.

Regarding the items listed in Section 2.3.6.b of the MS4 Permit, we have the following comments.

Design guidelines and performance standards that affect the creation of impervious cover in Stoughton are generally included in the Town of Stoughton Zoning By-Law and Map, the Town of Stoughton Land Subdivision Regulations, the Stormwater Management Bylaw, and the Rules and Regulations for Stormwater Management. The Towns Wetlands Bylaw (Chapter 191) and Wetlands Protection By-Law Regulations do not pertain to the creation of impervious surfaces.

Zoning Bylaw

Consistent with most municipalities in Massachusetts, parking standards and requirements are addressed in the Stoughton Zoning Bylaw. Section 6 of the Zoning Bylaw provides design standards for off-street parking. Section 6.1.3 allows for the use of compact parking spaces for up to 30% of all parking spaces. Section 6.1.4 allows for shared parking facilities between adjacent uses that ultimately reduces the amount of parking spaces and therefore impervious surfaces. Section 8.4 of the Bylaw is regarding Planned Business Developments. Section 8.4.2.6 allows for a reduction in total parking spaces up to 10%, which can result in less parking and less impervious surface. Section 9.3.16.1 allows for shared parking in the Stoughton Center Mixed Overlay District. Section 9.3.16.2 allows for off-site motor vehicle parking in this District if it is located within 500 feet of the site boundary.

These sections of the Zoning Bylaw give applicants, and the Planning Board, the flexibility to provide parking spaces based on the individual use and reduce parking spaces when needed form the outlined provisional standards. This approach can result in the reduction of impervious surfaces, resulting in a reduction of stormwater impacts. This is a forward looking approach to parking lot design that is being adopted by some – but not all – Planning Boards in Massachusetts.

Section 6.1.6 of the Bylaw includes a table of off-street parking regulations by use. This table include parking minimums which often result in the construction of more parking spaces – and impervious surfaces – than are necessary. Many Towns are revising their parking requirements to allow applicants to provide the amount of parking that is necessary, preventing unnecessary parking spaces from being constructed.

Sections 6.4.5, 6.4.6, and 6.4.7 provide standards for providing landscaping. Section 6.4.7 requires parking lots with 40 or more spaces to have 15% of the parking lot area landscaped. This is a Green Infrastructure strategy. Some municipalities have adopted standards that allow stormwater to flow into landscaped areas and use these areas as stormwater management facilities.

In general, the Stoughton Zoning Bylaw provides the Planning Board some limited flexibility to grant waivers from the parking standards described in Section 6.1.6 by land use. This flexibility allows the Planning Board to allow applicants for new developments to right size parking, resulting in the minimum number of parking spaces to support each individual use. There are also provisions in the Zoning Bylaw to allow for shared parking and consider off-street parking which can help reduce the amount of impervious surface and stormwater runoff generated by a project.

Subdivision Regulations

The Stoughton Land Subdivision Regulations are dated February 17, 1999, which is after the initial promulgation of the Massachusetts Stormwater Management Standards but prior to the revised Standards that were issued in 2008. At that time, stormwater management still consisted primarily of collect and convey systems with little stormwater treatment or infiltration as designers and regulatory boards were adapting to the execution and enforcement of these new Standards. Planning trends, such as reducing impervious surfaces for purposes of reducing stormwater runoff

or pervious pavement, were generally not considered. The following sections of the Subdivision Regulations pertain to impervious surfaces:

Section VI. A. 2. Table 1 lists Cross Sectional Design Standards for streets. This table shows a pavement width of 44 feet for collector streets and 30 feet for minor streets. These street widths are very wide and we recommend the Town consider reducing pavement widths to reduce impervious surface and therefore stormwater impacts.

The Regulations do not allow for landscaped islands within cul-de-sacs. Appendix A – Stoughton Standard Details, Road Cross Sections includes a cul-de-sac detail. This detail does not include a planted island within the center, which is allowed in some – but not all – municipalities. Adding – or requiring – a landscape island, will reduce impervious surface.

There are generally no references within the Subdivision Regulations to pervious pavements. All references are to standard bituminous concrete pavement. Section VI. J. 2 describes the use of bituminous concrete sidewalks in subdivisions and does not mention porous or pervious pavements.

Section 360-31 B of the Subdivision Regulations provides widths for travelled ways. This section requires paved roadway widths for Type A (residential) subdivisions to be between 24 and 32 feet. Type B (business or industrial) subdivisions requires paved roadway widths to be between 28 and 36 feet wide.

In our opinion, the required street widths described in the Subdivision Regulations, are wider than needed for residential developments. If designed for vehicular traffic only, residential subdivisions pavement widths could be reduced from 30 feet wide to 24 feet. This width is consistent with Subdivision Regulations in other municipalities. For example, the Devens Enterprise Commission Design Standards by Street/Road Classification calls for a travel lane width of 9 feet with a 1 foot wide shoulder for local streets with a design speed of 30 miles per hour. This road width is derived from the MassDOT Project Development and Design Guide published in 2006. The Town of Hingham Planning Board Rules and Regulations include a minor road width of 22 feet and a limited residential road width of 18 feet. Reducing the pavement widths would reduce the amount of impervious surface and stormwater generation. When bicycle lanes are incorporated in road designs, additional width (possibly 4-6 feet) could be added to the roadway layout. Industrial roads are typically wider than residential roads to accommodate higher volumes of traffic and larger vehicles. The Stoughton Subdivision Regulations include a width for an industrial road of 44 feet. In our opinion, this width is generally consistent with other municipality's regulations for business or industrial roads. For example, the Town of Hingham, which defines a major street as the principal access to a business or industrial subdivision, has a width of 40 feet. We recommend the Town study reducing the pavement widths for industrial subdivision roads.

The Stoughton Subdivision Regulations could also be revised to include pervious pavements for sidewalks. Pervious pavement is not as durable as traditional pavement and in our opinion is not appropriate for travelled ways. However, including pervious pavements for sidewalks will reduce stormwater impacts when compared to traditional pavements.

Stormwater Management Bylaw

Chapter 159 of the Town Bylaws pertains to Stormwater Management. This Bylaw was recently passed by the Town of Stoughton. This Bylaw applies to all land development projects that disturb one acre or more. This threshold includes site development projects as well as subdivisions that include clearing one acre of land that drain to a municipal storm sewer system.

Other than the Definitions Sections, which describes Impervious Surface, there is no direct mention of Impervious Surface within the Bylaw.

Stormwater Management Regulations

The Stormwater Management Regulations were passed on October 19, 2021. Direct references to impervious cover are in the Definitions section as well as Sec 6 I) 2 m) Permit Procedures and Requirements which requires all applicants to show all proposed areas impervious cover as part of the impervious cover requirements. Section 7.0 B) regarding Additional Design Criteria requires Low Impact Design site planning strategies be used to the maximum extent practicable including "reducing or minimizing impervious surfaces, incorporating stormwater management facilities into landscape islands, bioretention basins, grass and surface swales, infiltrative basins and chambers, pervious pavers, etc." This section also requires the applicant justify why LID facilities cannot be incorporated into site designs if these strategies are not used.

Section 7.0 B) 4. requires any roadway widenings that increase the amount of impervious area on a redevelopment site to meet the LID site design criteria described n the regulations.

Conclusions

Section 2.3.6.b of the Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit requires permittees to "develop a report assessing local current street design and parking lot guidelines that affect the creation of impervious cover. This assessment shall be used to provide information to allow the permittee to determine if changes to design standards for streets and parking lots can be made to support low impact design options." In our opinion, the Zoning Bylaw and Stormwater Management Bylaw are generally consistent with regard to limiting impervious surfaces. The Zoning Bylaw provides flexibility to limit the number of parking spaces and therefore, the amount of impervious surfaces. It also allows for relief from the parking requirements based on shared parking or on-street parking. The Stormwater Management Regulations encourages the use of Low Impact Development approaches, including the use of pervious pavers and minimizing new impervious surface to increase on-site infiltration and reduce off-site stormwater impacts.

The Stoughton Subdivision Regulations were last amended a few years after the adoption of the Massachusetts Stormwater Management Standards. The Subdivision Regulations generally require traditional collect and convey stormwater management strategies and include generous street widths for all new subdivisions. We recommend the Subdivision Regulations be reviewed and amended to include narrower street widths for residential and industrial streets. Most – if not all –

Definitive Subdivisions would require the clearing of one acre of land and therefore meet the threshold for requiring a Stormwater Permit. Through the Stormwater Permit process, we would expect the implementation of Low Impact Development strategies, including reduction of impervious surfaces or implementation of pervious pavement strategies.

We recommend that pervious pavement strategies be used for all sidewalks, including definitive subdivisions, site developments, and complete streets strategies consistent with the strategies described in the Stormwater Management Bylaw.

For clarity, both the development sections of the Zoning Bylaw and Subdivision Regulations should be amended to refer to the design standards of the Stormwater Management Bylaw, ensuring the strategies described in the Bylaw are incorporated into the proposed designs.

Please call if you have any questions regarding these items.

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: June 27, 2022

To Marc Tisdelle, PE, Executive Director of Development Services/Town Engineer

From Scott Turner, PE, AICP, LEED AP ND

Subject: **Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit Green Infrastructure Memorandum**

Introduction

This memorandum is regarding Section 2.3.6.c of the Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit. This section requires permittees to "develop a report assessing local regulations to determine the feasibility of making, at a minimum, the following practices allowable when appropriate site conditions exist:

i. Green roofs;
ii. Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
iii. Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The assessment should indicate if the practices are allowed in the MS4 jurisdiction and under what circumstances are they allowed. If the practices are not allowed, the permittee shall determine what hinders the use of these practices, what changes in local regulations may be made to make them allowable, and provide a schedule for implementation of recommendations. The permittee shall implement all recommendations, in accordance with the schedules, contained in the assessment.

Environmental Partners, at the request of the Town of Stoughton, has reviewed Stoughton's existing local regulations and performed and assessment regarding the viability for implementing or allowing the above described Green Infrastructure practices. Specifically, Environmental Partners reviewed the following development regulations:

- Chapter 159 Stormwater Management.
- Rules & Regulations for Stormwater Management adopted 2021.
- Town of Stoughton, Massachusetts Zoning By-Law and Map, as amended through December 2, 2020.
- Chapter 191 Wetlands Protection Bylaw
- Town of Stoughton Non-Zoning Wetlands Protection By-Law Regulations, approved July 12, 2012.
- Town of Stoughton Land Subdivision Regulations, Dated February 17, 1999.
- Chapter 163 Stretch Energy Code.

Recently, the Town of Stoughton passed a revision to the Stoughton Stormwater Management Bylaw and Regulations that encourages the use of Low Impact Development/Green Infrastructure strategies consistent with the requirements of the Massachusetts Small MS4 Permit.

Regarding the items listed in Section 2.3.6.c of the MS4 Permit, we have the following comments.

Green Roofs

Although green roofs serve a stormwater management function, their design and construction is typically regulated under State and local building codes. Chapter 163 of Stoughton's Bylaws regarding Building Construction pertains specifically to the Stretch Energy Code. The Stretch Energy Code has been adopted by many states and local municipalities to require and encourage greater energy efficiency. Chapter 163 of Stoughton's Bylaws do not include discussion regarding green roofs. Chapter 159, regarding Stormwater Management, does not include specific language pertaining to the implementation of green roofs. Section 7 B) 1. of the Stormwater Regulations lists a number of Low Impact Development Strategies and describes the implementation of various stormwater management measures to satisfy the requirements of the Stormwater Management Bylaw. This section lists various stormwater management measures including reducing or minimizing impervious surfaces, incorporating stormwater management facilities into landscape islands, bioretention basins, grass and surface swales, infiltrative basins and chambers and pervious pavers. It does not specifically mention Green Roofs.

Additional requirements or promotion of Green Roofs in Stoughton would likely include an additional bylaw or regulation specific to Green Roofs. In addition, requirements for the use of Green Roofs as a stormwater management practice would most likely require additional more specific language regarding Green Roofs in the Stoughton Stormwater Management Bylaw and/or Regulations. Due to the complex nature of constructing Green Roofs, including impacts to the design of building structural and rooftop elements, specific guidance would need to be developed for the design, construction, and maintenance of these structures.

Infiltration Practices

The Stoughton Bylaws and Regulations require and/or encourage the use of infiltrative practices in many different Regulations and Bylaws. Section 159-8 (10) (b) [6] of the Bylaw requires projects to

maximize groundwater recharge, which is a Green Infrastructure infiltration strategy. Section 159-9 (2) (a) [3] of the Bylaw requires minimizing loss of annual recharge from the site, which effectively translates into providing additional infiltration.

The Regulations include a number of references to infiltration practices. Section 2 – Definitions, describes "INFILTRATION: The act of conveying surface water into the ground to permit groundwater RECHARGE and the reduction of stormwater RUNOFF from a project SITE." Section 7 B) 1 requires Low Impact Development Strategies to be used to the maximum extent practicable including infiltrative basins and chambers and pervious pavers, which are all infiltrative practices. Section 7 B) 3. a), Additional Design Criteria, requires new development projects retain the volume of stormwater equivalent to one-inch multiplied by total impervious area. This requirement can be met through stormwater harvesting, but is much easier accomplished through collection and infiltration, provided soil conditions are suitable for infiltration. Section 7 B) 3. b), Additional Design Criteria, requires re-development projects retain the volume of stormwater equivalent to .8-inch multiplied by total impervious area. Similar to Section 7 B) 3. a), this requirement for redevelopment projects is most easily accomplished through infiltrative practices, provided soil conditions are suitable of infiltration.

The Stoughton Zoning Bylaw is limited with regard to referring to infiltrative stormwater management practices. Section 10.6.11 describes requirements for the preparation of a Stormwater Management Report as part of the Site Plan approval process. This section of the Zoning Bylaw refers to meeting the requirements of the MS4 permit. Section 10.6.11.11 states that site runoff shall be infiltrated to the maximum extent practicable and also describes that Low Impact Development Strategies are encouraged.

The Stoughton Land Subdivision Regulations have limited references to infiltrative practices. This section primarily contains references to traditional closed drainage systems. There are references throughout the Regulations to drainage design. All of these references imply the construction of closed drainage systems as follows:

Section IV. C. 2. b. 14. (8) requires that all definitive subdivision plans show proposed road plan and profiles including stormwater drains, catch basins, and manholes. This implies a traditional closed drainage system.

Section IV. C. 2. b. 14. (8) requires that all definitive subdivision plans show plan and profiles with rim and invert elevations of all manholes and catch basins. This implies a traditional closed drainage system is expected.

Section IV. C. 2. b. 17. requires that all definitive subdivision plans show size and materials of all proposed and existing drain pipes, catch basins, manholes, and outlets. This implies a traditional closed drainage system is expected.

Section IV. C. 2. b. 31. Provides guidance regarding the development of a drainage plan. This section references the inclusion of traditional closed drainage structures including inlets, pipes, drains, culverts, manholes, and headwalls. This implies a traditional closed drainage system is expected.

Section V. C. 2. n. 8. requires all definitive subdivision plans to include, on the plan and profile sheets, the size, locations, and slopes of stormwater drains, catch basins, and manholes. This implies the installation of a closed drainage system.

Section VI. C. 1. is regarding drainage and runoff control. This section describes drainage and runoff control structures as catch basins, manholes, piping, detention ponds, headwalls, endwalls, rip-rap, emergency spillways, etc. which are all traditional closed drainage structures. There is no description or reference to infiltrative practices, low impact development or green infrastructure strategies.

Section VI. C. 2.c describes drainage systems as gutters, inlets, culverts, catch basins, manholes, subsurface piping, surface channels, natural waterways, and open detention basins. These are all traditional closed stormwater design strategies. This section does not refer to infiltrative practices, low impact development or green infrastructure strategies.

Appendix A – Stoughton Standard Details, Road Cross Sections include traditional closed drainage details. The typical road cross section shows traditional storm pipe located beneath the road and does not include infiltrative practices.

Appendix B – Stoughton Standard Details, Drain include standard details for drain manholes, frames and covers, catch basins, frames and grates, drain trench detail, headwall, endwall, and rip-rap detail. These are all traditional grey infrastructure details and do not include any green infrastructure or infiltrative drainage details.

The Stormwater Management Regulations requires the use of infiltrative practices. Although the Subdivision Regulations generally describe the use of traditional closed drainage systems rather than Low Impact Development stormwater management systems, Definitive Subdivisions – provided they disturb greater than one acre of land – are required to obtain a Stormwater Management Permit and presumably comply with the requirements of the Stormwater Management Bylaw, including the use of Low Impact Development stormwater management strategies.

For clarity, we recommend the Land Subdivision Regulations be revised to include the infiltration practices required by the Stormwater Management Bylaw and Regulations. Designers will always review the Definitive Subdivision Regulations but may not always review the Stormwater Management Bylaw. We recommend the Land Subdivision Regulations be revised to more clearly require Low Impact Development stormwater management practices including the infiltration practices described by Section 2.3.6.c of the MS4 Permit or – at a minimum – require that all stormwater designs comply with the requirements outlined in the Stormwater Management Bylaw and Regulations.

Rainwater Harvesting

Rainwater harvesting is the collection, storage, and eventual reuse of rainwater for use as irrigation or industrial process water. Rainwater reuse systems can be used on small scales, such as collecting water from residential home downspouts, or on a much larger scale including collecting water from

large industrial buildings. Rainwater harvesting and reuse is not specifically identified in any of the Town of Stoughton's Land Development Regulations.

We did not see any additional specific references to rainwater harvesting or reuse in other areas of the Stormwater Management Bylaw or Regulations, the Zoning Bylaw, or Land Subdivision Regulations. Since all large site developments and definitive subdivisions that include over an acre of land disturbance require a stormwater management permit, they are required to comply with the requirements of the Stormwater Management Bylaw.

Conclusions

Section 2.3.6.c of the Massachusetts Small Municipal Separate Storm Sewer System (MS4) Permit requires permittees to "develop a report assessing local regulations to determine the feasibility of making, at a minimum, the following practices allowable when appropriate site conditions exist:

- Green roofs;
- Infiltration practices such as rain gardens, curb extensions, planter gardens, porous and pervious pavements, and other designs to manage stormwater using landscaping and structured or augmented soils; and
- Water harvesting devices such as rain barrels and cisterns, and the use of stormwater for non-potable uses.

The Stoughton Stormwater Management Bylaw, encourages the use of low impact development and green infrastructure practices for all projects that involve the clearing of one acre of land and require a Stormwater Management Permit. The Zoning Bylaw has some general references to stormwater management in select areas throughout the bylaw, but nothing very specific. The Land Subdivision Regulations generally reference traditional closed drainage systems that were standard engineering practice prior to the adoption of the Massachusetts Stormwater Management Standards. The Land Subdivision Regulations do not specifically reference the stormwater management practices described in this Section of the MS4 permit. The Stoughton Wetlands Protection Bylaw and the Town of Stoughton Non-Zoning Wetlands Protection By-Law Regulations do not have specific references to stormwater management or Low Impact Development stormwater management practices. In our opinion, the stormwater management practices described in the Stormwater Management Bylaw are consistent with the requirements of the MS4 permit. We a recommend the Zoning Bylaw be revised to include additional language that reference the Stormwater Management Bylaw and the design criteria within the Stormwater Management Bylaw specifically. Additional language could be included to require Low Impact Development Stormwater Management Standards and the specific best management practices described in the MS4 permit.

The Town of Stoughton Land Subdivision Regulations were adopted over 20 years ago in 1999. Stormwater management approaches and design standards have changed considerably. At a minimum, these Regulations should refer to the Stoughton Stormwater Management Bylaw regarding the design of stormwater management systems. Specifically Section IV C refers to design

criteria for each subdivision's drainage system. We recommend this section be revised to include Low Impact Development strategies, consistent with the requirements of the MS4 permit, and the Stoughton Stormwater Management Bylaw. The way the current Regulations are written, the standard – or by-right – approach to stormwater management includes traditional closed drainage systems. We recommend this section be revised to include the practices described in the MS4 Permit above.

Please call if you have any questions regarding these items.

I:\Stoughton 282\Stormwater\282-2109 FY22 MS4 Services\3B Green Infrastructure Report\2022-06-27 Stoughton Green Infrastructure memo.docx

ENVIRONMENTAL PARTNERS
— An Apex Company —

MEMORANDUM

Date: August 9, 2022

To Marc Tisdelle, P.E. – Town Engineer, Town of Stoughton

From Scott Turner, P.E. – Director of Planning, Environmental Partners

CC Paul Giffune – DPW Superintendent, Town of Stoughton
Larry Langlois – GIS Manager/Stormwater Coordinator, Town of Stoughton
Craig Horsfall, P.E. – Assistant Town Engineer, Town of Stoughton

Subject Minimum Control Measure No. 5 BMP Retrofit Analysis and Priority Municipal Properties

This memorandum summarizes the work completed by Environmental Partners Group, LLC (Environmental Partners) for the Town of Stoughton, MA in accordance with Task 3c of the Agreement for Professional Engineering Services – Municipal Separate Storm Sewer System (MS4) General Permit Assistance for the Town of Stoughton.

In accordance with MS4 General Permit section 2.3.6.d, the Town of Stoughton is required to develop an inventory of Town-owned properties that could be modified or retrofitted with constructed stormwater best management practices (BMPs). Beginning with the MS4 Year 4 annual report, the Town will need to maintain an inventory of five (5) permittee-owned properties that are candidates for BMP retrofits. The Town will also need to provide a status update of any progress made on all properties that have been modified or retrofitted with BMPs to mitigate impervious cover for each subsequent report submittal. In this memorandum, Environmental Partners evaluated all Town-owned properties and developed the initial inventory of five permittee-owned properties identified for BMP retrofit opportunities.

IDENTIFICATION OF POTENTIAL BMP LOCATIONS

Section 2.3.6.d of the MS4 Permit requires that permittees identify a minimum of five (5) permittee-owned properties that could potentially be modified of retrofitted with BMPs designed to reduce the frequency, volume, and pollutant loads of stormwater discharges to and from its MS4. The permit

requires that permittees consider properties with significant impervious cover as well as access to maintenance, subsurface geology, depth to water table, proximity to aquifers, and subsurface infrastructure.

The Town of Stoughton maintains the municipal properties inventoried in Table 1, below. This inventory excludes municipal property that lacks any impervious surface, such as conservation land or vacant lots.

Table 1: Inventory of Town-owned Properties

Facility Name	Address
Ames Long Pond	1000 Highland Street
Ash Street Water Storage Tank	Ash Street
Community Field/STOYAC Football field & Parking Lot	Parkway off Washington Street
Dawe Elementary School	131 Pine Street
Animal Control Office	499 West Street
Cedar Hill Golf Course	1137 Park Street
DPW Garage	950 Central Street
Fire Station	30 Freeman Street
Fire Department	1550 Central Street
Forest Water Storage Tank	Forest Road
Gibbons Elementary School & Fields	232 Pearl Street
Halloran Park	Pierce Street
Hansen Elementary School	1800 Central Street
High School & Fields	232 Pearl Street
Jones Early Childhood Center	137 Walnut Street
Little Theater of Stoughton	951 Pleasant Street
Manfred Kolz Soccer Fields	501 West Street
MBTA Stoughton Commuter Rail Train Station	45 Wyman Street
Memorial Park	Walnut Avenue
Michael Sammarco Babe Ruth Memorial Field	89 Drake Avenue
Middle School & Fields	211 Cushing Street
Muddy Pond Water Treatment Plant	Bay Road
Oakland Street Water Storage Tank	Oakland and Pleasant Street
Parking Lot	Freeman Street and Washington Street
Parking Lot	Pleasant Street & Turnpike Street
Parking Lot	Train Station Parking
Parking Lot	Railroad Ave
Parking Lot	Rose Street
Pearl Street Cemetery	Pearl Street

Plain Street Water Treatment Plant	Plain Street
Pleasant Street Water Storage Tank	Pleasant Street
Police Station	26 Rose Street
Pratts Court Water Treatment Plant	221 Pratts Court
Public Library	84 Park Street
Recreation Department	15 Pleasant Street
South Elementary School & Fields	171 Ash Street
Stoughton Historical Society	6 Park Street
Town Hall	10 Pearl Street
VFW Memorial Field	West Street
Water Department	940 Central Street
West Elementary School, Fields & Deborah L. Levitz Playground	1322 Central Street
Youth Commission/ Council on Aging	110 Rockland Street

RANKING OF POTENTIAL BMP LOCATIONS

Environmental Partners performed a high level analysis of the facilities listed above. This analysis included site visits to all of the facilities to observe site conditions and occurrence of any stormwater management systems or facilities. EP also used the Natural Resources Conservation Service (NRCS) Soil Survey data to assess soil conditions at each facility in order to understand if the soils are appropriate for the installation of stormwater best management practices. Specifically, EP reviewed the mapped soil consistency, hydrologic soil group, and estimated seasonal high groundwater depth. EP reviewed online Geographic Information System (GIS) data layers stored on the Town of Stoughton GIS system as well as MassGIS. Specifically, EP reviewed whether each site was located within a regulated area, such as a Zone I or Zone II Area of a public drinking water supply or a wellhead protection area. EP reviewed the amount of impervious surface on site, including the number of parking spaces, to understand the amount of vehicle trips that may be generated by each site. EP also compared each location based on the Town of Stoughton catchment rankings determined as part of the development of the IDDE Plan last updated in June 2022. Land use, and the intensity of development and potential to generate pollutants was also considered.

In accordance with Appendix H Part I.1.a.i.2, the Town must also include consideration of BMPs to reduce nitrogen discharges, due to the Taunton River Watershed's nitrogen impairment. Nitrogen export calculations for each outfall-catchment was completed in the Town's Nitrogen Source Identification Report (NSIR), developed by the Neponset Stormwater Partnership and then evaluated by EP. That report studies outfall-catchments within the Taunton River Watershed for siting BMP retrofits, whereas this report looks at municipal properties throughout the Town. Therefore the findings from the NSIR and this analysis will be largely different and complementary.

EP prepared a ranking matrix incorporating the factors described above. In general, EP found that approximately 20 percent of the facilities listed in Table 1 contained existing stormwater management BMPs. Only one facility (Long Ames Pond beach and swimming area) was found to discharge directly into an impaired waterbody: Long Ames Pond. Additionally, a quarter of the

facilities were determined to discharge to a water body upstream of an impaired water body, including Steep Hill Brook and Woods Pond. Approximately 30 percent of municipal facilities studied are located within a Public Water Supply Zone I or Zone II. Some properties contain no piped drainage and thus no outfall-catchment priority as determined by the Town's Illicit Discharge Detection and Elimination (IDDE) Program. The majority of facilities with an outfall-catchment ranking were prioritized as high. Soil conditions throughout Town, based on the NRCS Soil Survey, generally are mixed between hydrologic groups A, B, C, D, and unknown soils. The center of Town contains primarily Urban Land soils, which indicate that the soil has been disturbed and its infiltrative characteristics are unable to be estimated without infiltration test pits. The majority of facilities have a seasonal high groundwater of greater than 80 inches below ground surface, according to NRCS estimates. Therefore, suitable soils generally exist throughout Town for the installation of stormwater management facilities. Soil infiltrative characteristics and groundwater conditions require further investigation to confirm suitability for stormwater BMPs.

EP evaluated whether a particular property contained a high, medium, or low potential to generate pollutants. In general, the Department of Public Works (DPW) facility was rated high due to the facility's operations, vehicle storage and washing, and presence of stockpiles. EP also rated the High School, Middle School, and Cedar Hill Golf Course as high due to the amount of impervious surface on site including parking spaces and vehicle travel and open space that is maintained, irrigated, fertilized, and chemically treated. Although the High School generates a significant pollutant load, it was recently constructed and contains stormwater best management practices that are fully compliant with State standards. Properties that experience high vehicular traffic such as Town Hall, the elementary schools, and Police Station were ranked as medium due to their high amount of impervious surface and vehicular traffic. Facilities used by the Water Department such as a treatment plant or water storage tank were rated as low given their low vehicular traffic and amount of impervious area. Fields were generally ranked as low due to the low amount of impervious surfaces and high infiltrative capabilities.

EP has had discussions with engineering staff regarding the widths of roads in Stoughton. In general, the Town's roads are wider than roads in surrounding municipalities. In many cases, road widths in numerous locations throughout Town could be reduced to decrease impervious surface and therefore stormwater impacts. Specific locations are too numerous to include in this analysis.

Based on the criteria described above, EP has prioritized the following facilities for the development of stormwater Best Management Practices. The list is ordered from highest to lowest priority for BMP retrofits.

1. DPW Garage,
2. Cedar Hill Golf Course,
3. Jones Early Childhood Center,
4. Dawe Elementary School, and
5. West Elementary School, Fields & Deborah L. Levitz Playground.

Please see the accompanying spreadsheet in Attachment 1 to review the considerations and criteria used to determine this ranking. These locations are also shown in Attachment 2.

Attachments

Attachment 1: Table of Priority Ranking of Municipal Properties for BMP Retrofits

Attachment 2: Figure of All Municipal Properties and Five Priority Properties for BMP Retrofits

Attachment 1: Priority Ranking of Municipal Properties for BMP Retrofits

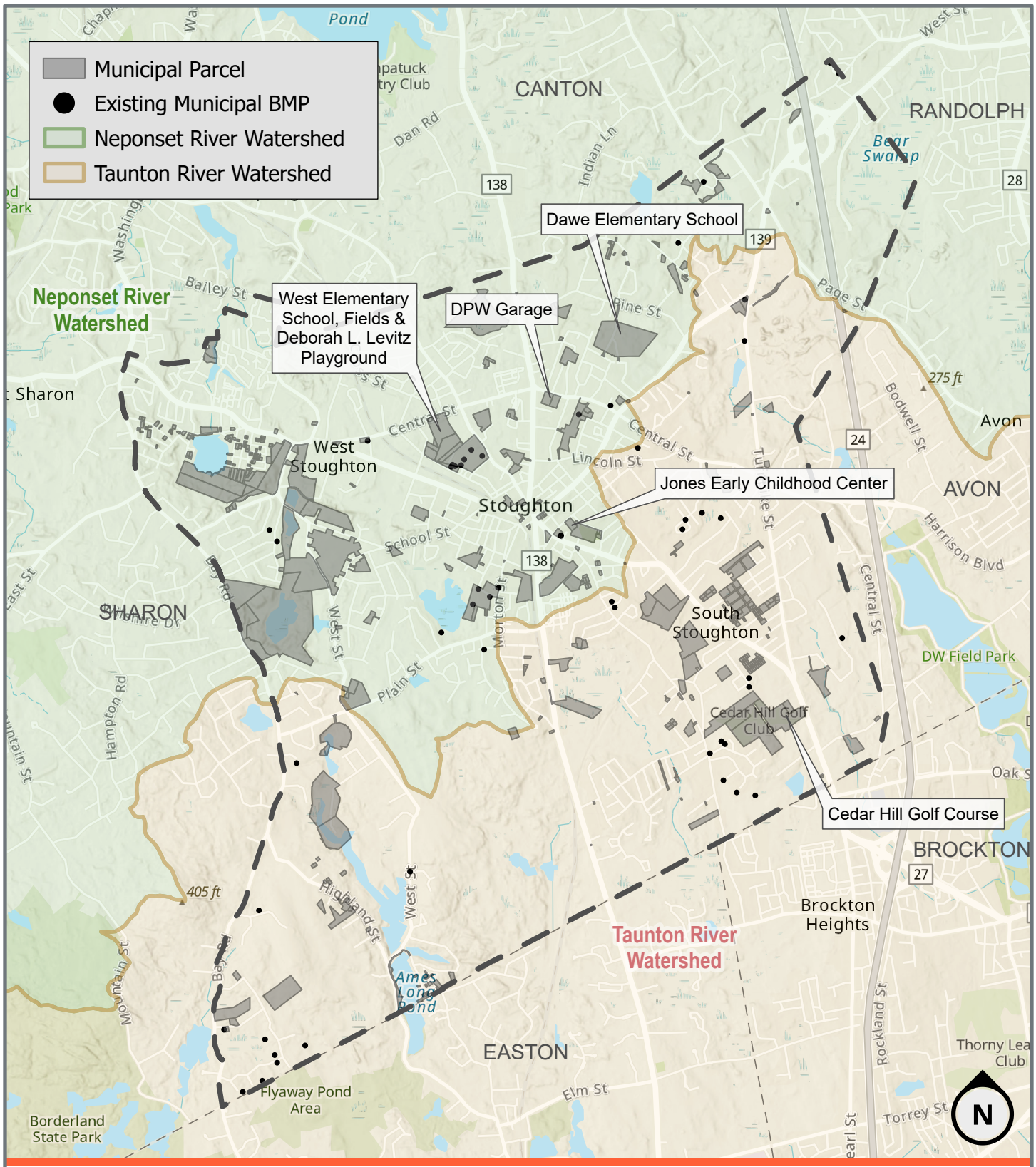
Facility Name	Address	Outfall-catchment priority	Receiving Water	Potential pollutant loading	Subsurface geology	Hydrologic Soil Group	Estimated water table (inches)	Proximity to public water supply zones	Existing stormwater BMPs	Notes
DPW Garage	950 Central Street	High	Unnamed Wetlands	High	Urban land, - Unknown HSG Whitman fine sandy loam, extremely stony - D	Unknown, D	>80	No	No	Stormwater management upgrades are underway High pollutant loading
Cedar Hill Golf Course	1137 Park Street	High	Unnamed Pond	High	Charlton-Hollis-Rock outcrop complex - A Canton fine sandy loam, extremely stony - B Woodbridge fine sandy loam, extremely stony - C/D Ridgebury fine sandy loam, extremely stony - D	A, B, C/D, D	>80, >20	No	No	Large parking lot High vehicular traffic High fertilizer use
Jones Early Childhood Center	137 Walnut Street	High	Unnamed Wetlands	Medium	Merrimac-Urban land complex	A	>80	No	No	High vehicular traffic Significant impervious Area
Dawe Elementary School	131 Pine Street	High	Beaver Meadow Brook (IMPAIRED)	Medium	Udorthents, loamy - A Canton fine sandy loam, extremely bouldery - A Merrimac fine sandy loam, - A Canton fine sandy loam, extremely stony - B Whitman fine sandy loam, extremely stony - C	A, B, C	>80, 0	Partly in Zone II	No	High vehicular traffic Significant impervious Area Discharges directly to impaired waters
West Elementary School, Fields & Deborah L. Levitz Playground	1322 Central Street	High	Unnamed Stream to West Stoughton Pond to Steep Hill Brook (IMPAIRED)	Medium	Merrimac fine sandy loam	A	>80	No	No	Discharges to impaired waters
Hansen Elementary School	1800 Central Street	High	Unnamed Stream to Steep Hill Brook (IMPAIRED)	Medium	Udorthents, loamy	A	>80	Zone II	No	Discharges to impaired waters
South Elementary School & Fields	171 Ash Street	High	Unnamed Stream to Dorchester Brook	Medium	Paxton fine sandy loam, extremely stony	C	>20	No	No	
MBTA Stoughton Commuter Rail Train Station	45 Wyman Street	High	Unnamed Wetlands	Medium	Urban land	Unknown	>80	No	No	
Parking Lot - Rose Street	26 Rose Street	High	Unnamed Stream to Brittons Pond	Medium	Urban land	Unknown	>80	No	No	Located adjacent to Police Department
Parking Lot - Freeman Street	0 Freeman Street	High	Unnamed Stream to Brittons Pond	Medium	Urban land	Unknown	>80	No	No	
Parking Lot - Train Station Lot	Wyman Street	No piped drainage	Unnamed Wetlands	Medium	Urban land	Unknown	>80	No	No	
Parking Lot - Railroad Ave	Railroad Ave	No piped drainage	Unnamed Wetlands	Medium	Urban land	Unknown	>80	No	No	
Town Hall	10 Pearl Street	High	Unnamed Stream to Brittons Pond	Medium	Urban land	Unknown	>80	No	No	
Middle School & Fields	211 Cushing Street	High	Unnamed Stream to West Stoughton Pond to Steep Hill Brook (IMPAIRED)	High	Urban land	Unknown	>80	No	Yes	Not all stormwater is treated via existing BMPs Discharges to impaired waters
Police Station	26 Rose Street	High	Unnamed Stream to Brittons Pond	Medium	Urban land	Unknown	>80	No	No	High vehicular traffic Significant impervious Area
Fire Station	30 Freeman Street	High	Unnamed Wetlands	Medium	Urban land	Unknown	>80	No	No	
Ames Long Pond	1000 Highland Street	High	Ames Long Pond (IMPAIRED)	Low	Udorthents, loamy - A Canton fine sandy loam, extremely bouldery - A	A	>80	No	No	Receives discharge from 2 MS4 Outfalls Discharges directly to impaired waters
Halloran Park	Pierce Street	High	Unnamed Wetlands	Low	Merrimac fine sandy loam - A Merrimac-Urban land complex - A	A	>80	No	No	
Stoughton Historical Society / Pleasant Street Parking Lot	6 Park Street	High	Unnamed Wetlands	Low	Urban land	Unknown	>80	No	No	
Recreation Department	15 Pleasant Street	High	Unnamed Wetlands	Low	Urban land	Unknown	>80	No	No	
Community Field/STOYAC Football field & Parking Lot	Parkway off Washington Street	Low	Unnamed Stream	Low	Udorthents, loamy - A Scarboro and Birdsall soils - A/D	A, A/D	>80, 0	No	No	
Animal Control Office	499 West Street	No piped drainage	Unnamed Stream to West Stoughton Pond to Steep Hill Brook (IMPAIRED)	Low	Sudbury fine sandy loam	B	>27	Zone II	No	Discharges to impaired waters

Attachment 1: Priority Ranking of Municipal Properties for BMP Retrofits

Facility Name	Address	Outfall-catchment priority	Receiving Water	Potential pollutant loading	Subsurface geology	Hydrologic Soil Group	Estimated water table (inches)	Proximity to public water supply zones	Existing stormwater BMPs	Notes
Manfred Kolz Soccer Fields	501 West Street	No piped drainage	Muddy Pond	Low	Udorthents, loamy - A Udorthents, sandy - A Hinckley loamy sand - A	A	>80	Zone II	No	
Michael Sammarco Babe Ruth Memorial Field	89 Drake Avenue	No piped drainage	Unnamed Stream to West Stoughton Pond to Steep Hill Brook (IMPAIRED)	Low	Hinckley loamy sand - A Sudbury fine sandy loam - B	A, B	>80, >27	No	No	Discharges to impaired waters
Memorial Park	Walnut Avenue	High	Unnamed Stream	Low	Merrimac-Urban land complex	A	>80	No	No	
Water Department	940 Central Street	High	Unnamed Stream to Steep Hill Brook	Medium	Udorthents, loamy - A Canton fine sandy loam - B	A, B	>80, 0	Zone II	No	
VFW Memorial Field	West Street	No piped drainage	Town Pond	Low	Merrimac fine sandy loam - A Udorthents, sandy - A Scarboro and Birdsall soils - A/D Walpole sandy loam - B/D Udorthents, wet substratum - Unknown	A, A/D, B/D, Unknown	>80, 0	Zone II	No	
Pratts Court Water Treatment Plant	221 Pratts Court	No piped drainage	Unnamed Stream to Steep Hill Brook	Low	Udorthents, sandy - A Swansea muck - B/D Udorthents, wet substratum - Unknown HSG	A, B/D, Unknown	>80, 0	Zone I	No	
Plain Street Water Treatment Plant	Plain Street	Low	Plain Street Pond	Low	Merrimac fine sandy loam - A Walpole sandy loam - B/D Canton fine sandy loam, extremely stony - B	A, B/D, B	>80, 2	Zone I	No	
Pearl Street Cemetery	Pearl Street	Low	Unnamed Stream	Low	Merrimac-Urban land complex - A Udorthents, loamy - A	A	>80	No	No	
Little Theater of Stoughton	951 Pleasant Street	No piped drainage	Unnamed Stream	Low	Sudbury fine sandy loam - B Scarboro and Birdsall soils - A/D	B, A/D	>27, 0	Zone I	No	Property appears to be abandoned or little used
Pleasant Street Water Storage Tank	Pleasant Street	No piped drainage	Unnamed Wetlands	Low	Montauk fine sandy loam	C	>30	No	No	High point
Ash Street Water Storage Tank	Ash Street	High	Unnamed Stream to Dorchester Brook	Low	Woodbridge fine sandy loam, extremely stony	C/D	>20	No	No	High point
Forest Water Storage Tank	Forest Road	No piped drainage	Unnamed Tributary	Low	Montauk fine sandy loam - C Scituate fine sandy loam - C	C	>27	No	No	High point
Oakland Street Water Storage Tank	Oakland and Pleasant Street	No piped drainage	Unnamed Wetlands	Low	Montauk fine sandy loam	C	>30	No	No	High point
Parking Lot - Pleasant and Turnpike	Pleasant Street & Turnpike Street	High	Unnamed Stream to Beaver Brook	Low	Sudbury fine sandy loam - B Scarboro and Birdsall soils - A/D	B, A/D	>27, 0	Zone II	Yes	
Youth Commission/ Council on Aging	110 Rockland Street	Low	Unnamed Wetlands	Medium	Scituate fine sandy loam, extremely stony	C	>27	No	Yes	
Muddy Pond Water Treatment Plant	Bay Road	No piped drainage	Muddy Pond	Low	Merrimac fine sandy loam - A Merrimac-Urban land complex - A Hinckley loamy sand - A	A	>80	Zone I	Yes	
Public Library	84 Park Street	High	Unnamed Wetlands	Medium	Merrimac-Urban land complex	A	>80	No	Yes	Library newly built and includes LID BMPs
Fire Department	1550 Central Street	Low	Unnamed Wetlands	Medium	Sudbury fine sandy loam	B	>27	No	Yes	
Gibbons Elementary School & Fields	232 Pearl Street	High	Woods Pond (IMPAIRED) and Unnamed stream	Medium	Udorthents, loamy	A	>80	No	Yes	Discharges directly to impaired waters
High School & Fields	232 Pearl Street	High	Unnamed Stream to West Stoughton Pond to Steep Hill Brook (IMPAIRED)	High	Urban land - Unknown HSG Merrimac fine sandy loam - A	Unknown, A	>80	No	Yes	Significant impervious surface, but recent stormwater upgrades are providing adequate stormwater management

Properties are lsited in order of priority for BMP retrofits

Properties located within the Taunton River Watershed are subject to Appendix H of the MS4 Permit and e Nitrogen-reducing requirements



ATTACHMENT 2

All Municipal Properties and Five Priority Properties for BMP Retrofits

Stoughton, MA

0 0.5 1 Miles

ENVIRONMENTAL PARTNERS
— An Apex Company —

ENVIRONMENTAL PARTNERS

— An Apex Company —

1900 Crown Colony Drive, Suite 402

Quincy, MA 02169

P: 617.657.0200 F: 617.657.0201

envpartners.com