Stormwater Management Program (SWMP) Plan

Town of Groveland, Massachusetts

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1 Introduction

Groveland is one of many Massachusetts communities regulated under the Environmental Protection Agency's (USEPA) National Pollutant Discharge Elimination System (NPDES) Phase II rule (40 CFR 122). The rule requires regulated operators of municipal separate storm sewer systems (MS4) to develop a Stormwater Management Program (SWMP) and Best Management Practices (BMPs) to reduce the impacts of stormwater discharges. The requirements are outlined in the NPDES General Permits for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts, which was signed on April 4, 2016, with an effective date of July 1, 2018, hereinafter referred to as the 2016 MS4 Permit.

This SWMP Plan describes and details the activities and measures that will be implemented to meet the terms and conditions of the permit.

1.1 Regulatory Background

The Stormwater Phase II Final Rule was promulgated in 1999 and was the next step after the 1987 Phase I Rule in the United States Environmental Protection Agency's effort to preserve, protect, and improve the Nation's water resources from polluted stormwater runoff. The Phase II program expands the Phase I program by requiring operators of Small Municipal Separate Storm Sewer Systems in urbanized areas, through the use of National Pollutant Discharge Elimination System permits, to implement programs and practices to control polluted stormwater runoff. 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 Census designated Urbanized Area are required to seek NPDES permit coverage for those stormwater discharges.

On May 1, 2003, EPA Region 1 issued its Final General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (2003 MS4 Permit) consistent with the Phase II rule. The 2003 MS4 Permit covered "traditional" (i.e., cities and towns) and "non-traditional" (i.e., certain Federal and state agencies and/or facilities) 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 USEPA's 2016 NPDES General Permit for Stormwater Discharges from MS4 in Massachusetts, hereafter referred to as the "2016 Massachusetts MS4 Permit", "2016 Permit", "MS4 Permit, and/or "2016 MS4 Permit" which replaces the 2003 MS4 Permit.

The 2016 Massachusetts MS4 Permit was signed on April 4, 2016 with an original effective date of July 1, 2017, however was postponed by 1 year to a new effective date of July 1, 2018. The permit was cosigned by the Massachusetts Department of Environmental Protection (MassDEP) and thus is jointly regulated by EPA and MassDEP for Massachusetts permittees.

The following sections outline how the Town of Groveland will meet Phase II regulatory and schedule requirements.

1.2 MS4 Program

As required by the 2016 MS4 Permit, The Town of Groveland submitted a Notice of Intent (NOI) and required accompanying information, including endangered species, historic preservation, and an outfall map to EPA Region 1 by the September 29, 2018 deadline (**Appendix A**) requesting authorization to discharge under the new permit. Groveland received official authorization to discharge stormwater from its MS4 on June 4, 2019. Authorization to discharge expires at June 30, 2022.

This Stormwater Management Program Plan has been developed by the Town of Groveland to address the requirements of the 2016 MS4 Permit as a follow-up to the NOI. This SWMP Plan documents the Town of Groveland's program, including Best Management Practices, plans, activities, and measures that have been implemented to date, those that are ongoing, and those proposed for the future to comply with the 2016 MA MS4 Permit. This is a "living" document and should be updated and/or modified as required during the permit term as the permittee's activities are modified, changed or updated to meet permit conditions during the permit term.

This permit in part requires that each permittee, or regulated community, address 6 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); and
6. Good Housekeeping and Pollution Prevention for Permittee Owned Operations.

In addition to the 6 MCMs above, permittees must also address water quality impacts from waterbodies with approved Total Maximum Daily Loads (TMDLs) and certain impairments, generally known as water quality limited waterbodies.

1.3 Regulated Area

Requirements of the 2016 MS4 Permit are limited to a regulated area, defined as the Town's Urbanized Areas (UAs) which generally constitute the largest and most dense areas of settlement in a region. The Bureau of the Census determines UAs by applying a detailed set of published UA criteria to the latest decennial census data. Although the full UA definition is complex, the Bureau of the Census' general definition of a UA, based on population and population density, is provided below:

> *"An urbanized area (UA) is a densely settled core of census tracts and/or census blocks that have population of at least 50,000, along with adjacent territory*

containing non-residential urban land uses as well as territory with low population density included to link outlying densely settled territory with the densely settled core. It is a calculation used by the Bureau of the Census to determine the geographic boundaries of the most heavily developed and dense urban areas."

The most recent UA maps are based on the 2010 Census. **Figure 1-1** shows the UA in the Town of Groveland, which covers a moderately developed central portion of the Town, and generally excludes the more forested areas found in the northeast/eastern and southern portions. Per the most recent census data, the UA covers 5,666 people out of the total Town population of 6,459, or approximately 88% of the population. The UA has been relatively static since the 2000 Census, with a very slight decrease in the southwestern corner of the Town. The UA is subject to change every 10 years based on the application of the Census definition, thus a larger area may be covered in the future.

1.4 How to Use this Plan

For the purposes of the 2016 MS4 Permit and ease of use, the Town's SWMP encompasses 3 separate written documents:

1. SWMP Plan (this document);
2. Illicit Discharge Detection and Elimination (IDDE) Plan; and
3. Operation and Maintenance (O&M) Plan.

Both the IDDE Plan and Operation and Maintenance Plan are prepared as separate standalone documents to this SWMP Plan. This SWMP Plan is divided into several sections and includes the following components:

Section 2 **Town Characteristics** – Section 2 provides an overview of relevant characteristics, focusing on those aspects related to stormwater runoff and the water quality of surface waters.

Section 3 **MCM 1: Public Education and Outreach** – regulated operators of MS4s are required to implement a public education program. Section 3 discusses activities to comply with this measure.

Section 4 **MCM 2: Public Participation and Involvement** – regulated MS4s are required to obtain public participation throughout the stormwater management program. Section 4 discusses activities to comply with this measure.

Section 5 **MCM 3: Illicit Discharge, Detection, and Elimination** – regulated MS4s must develop and implement an illicit discharge detection and elimination program and develop a regulation to prohibit illicit discharges to the storm drain system. Section 5 discusses activities to comply with this measure.

Section 6 **MCM 4: Construction Site Stormwater Runoff Control** – regulated MS4s are required to implement and enforce a program to reduce pollutants in stormwater runoff from construction activities that disturb 1 or more acres. This requires the development of a local regulation requiring implementation of proper erosion and sediment controls. Permittees are also responsible for inspections and enforcement. Section 6 discusses activities to comply with this measure.

Section 7 **MCM 5: Stormwater Management in New Development and Redevelopment** – regulated MS4s are required to develop and enforce a regulation requiring implementation of post-construction runoff controls at sites where construction activities disturb 1 or more acres. The controls must be designed to treat stormwater runoff from post-development sites and must be maintained over the long-term. Section 7 discusses activities to comply with this measure.

Section 8 **MCM 6: Good Housekeeping and Pollution Prevention** – regulated MS4s must review their operations at specific facilities and those that occur throughout the Town (i.e., catch basin cleaning and street sweeping) and make improvements where needed to minimize pollution to stormwater runoff. Staff involved in these operations must also be trained on appropriate operations and maintenance techniques. Section 8 discusses activities to comply with this measure.

Section 9 **TMDL and Impaired Waters Controls** – regulated MS4s are required to evaluate and address stormwater contributions to impaired waters. Section 9 discusses activities to comply with this measure.

Section 10 **Annual Reporting** – Section 10 provides a summary of annual reporting requirements in order to meet the 2016 MS4 Permit.

Section 11 **Implementation of Best Management Practices** – Section 11 provides a summary of proposed BMPs outlined in Sections 3 through 9 in a concise plan for easy reference.

1.5 Program Responsibilities

This plan is intended to be used by Town of Groveland staff whose job involves administering the MS4 permit and associated requirements. The Town's MS4 program will be headed by the following personnel:

Table 1-1. MS4 Responsible Personnel

Name	Title, Department	Contact
Denise Dembkoski	Finance and Personnel Director	(978) 556-7204 ddembkoski@grovelandma.com

The Town of Groveland has 8 departments responsible for implementing portions of its MS4 program as identified in the NOI. Therefore, due to the extensive number of departments involved as part of the Town's MS4 program, it is not feasible to list names and titles of responsible personnel for each one, as the information within this plan would be frequently out of date. However, **Table 1-1** provides a list of responsible departments and their general responsibilities within the MS4 program. The responsible person is the most senior person (e.g. department head, administrator, senior elected official, etc.) within each department listed below.

Table 1-2. Program Responsibilities

Department / Division	General Responsibilities
Building Department	Information distribution for public education; bylaw and regulation development; site plan review procedures; site inspections and procedures; as-built submittal; inventory buildings and facilities;
Board of Health	Sanitary Sewer Overflow (SSO) inventory; IDDE program implementation; IDDE training; bylaw and regulation development; water quality limited requirements
Conservation Commission	Information distribution for public education; bylaw and regulation development; site plan review procedures; site inspections and procedures; as-built submittal; target properties to reduce impervious areas and for BMP retrofit;
Highway Department	Website management; public participation; SSO inventory; system mapping; IDDE program creation and implementation; IDDE training; bylaw and regulation development; as-built submittal; target properties to reduce impervious areas and for BMP retrofit; inventory buildings and facilities; develop operation and maintenance procedures; SWPPP development and implementation; catch basin cleaning and street sweeping; road salt optimization program; BMP inspections and maintenance; water quality limited requirements
Information Technology	Social media participation; website management; public participation;
Planning Board	Information distribution for public education; bylaw and regulation development; site plan review procedures; site inspections and procedures; as-built submittal; target properties to reduce impervious areas and for BMP retrofit;
Town Clerk	Information distribution for public education; water quality limited requirements
Water and Sewer Department	SSO inventory; water quality limited requirements

2 Town Characteristics

This section provides some background information on the Town of Groveland, Massachusetts, useful in understanding the Town's characteristics and resources to develop a tailored Stormwater Management Plan. Town characteristics are described below.

2.1 Community Information

Groveland is a landlocked community located in northeastern Massachusetts within Essex County, near the border of New Hampshire. It is generally bordered by the Merrimack River to the northwest with Haverhill immediately across the river, West Newbury to the northeast, Newbury to the east, Georgetown to the southeast, and Boxford to the southwest. It lies within the Merrimack River watershed. Select relevant community profile information is provided below:

- Total Area = 9.4 square miles *(source: Wikipedia)*
- 2010 Population = 6,459 *(source: EPA maps based on 2010 US Census)*
- Regulated Area Population = 5,666 *(source: EPA maps based on 2010 US Census)*

2.2 Demographics

Demographics play a role in developing a public education program that targets the appropriate audience through the most appropriate means. Information on owner occupancy versus rentals and languages spoken can help shape how information is disseminated. In Groveland, there are about 70 people who speak English less than "very well" *(source: statisticalatlas.com)*. Because this is only about 1% of the population, the Public Education and Outreach program can proceed with distributing its materials in English.

2.2 Land Use

The land uses within the regulated area of the Town of Groveland are shown on **Figure 2-1** and provided below. Impervious area is shown on **Figure 2-2**.

- Commercial 11%
- Forest 11%
- Industrial 7%
- Open Land and Agriculture 8%
- Residential 40%
- Transportation and Utilities 6%
- Wetlands 3%
- Water 13%

As per the above, Groveland has substantial residential development (approximately 40%) with much of the remaining consisting of forest, open land, and water/wetland area (approximately 35%). Remaining land use (approximately 24%) consists largely of roadways and commercial/industrial development.

2.3 303(d) Impaired Waterbodies

The ultimate goal of this Stormwater Management Plan is to outline a program to effectively maintain the Town's stormwater infrastructure and to improve the water quality of receiving waters (waters which receive stormwater discharges from the MS4) in compliance with the 2016 MS4 Permit. 303(d) impaired waters are those surface waters identified by the MassDEP as priority waters that do not meet water quality criteria. As part of the 2016 MS4 Permit, communities must implement BMPs to address all 303(d) waters and specifically address those that have a completed TMDL study. **Table 2-1** lists the "impaired waters" partially or wholly located within the boundaries of Groveland's regulated area based on the Final 2014 Massachusetts Integrated List of Waters produced by MassDEP every 2 years[1]. These waters are shown in **Figure 2-3**. Groveland will review changes as new lists are published and record these changes and any new permit requirements in **Appendix B**.

Table 2-1. Impaired Waters

Waterbody Name	Segment ID and Category		Impairment(s)	Approved TMDL[2]
Johnson Creek	MA84A-15	5	Escherichia coli	
Johnsons Pond	MA84027	5	Mercury in Fish Tissue	
			Oxygen, Dissolved	
Merrimack River	MA84A-05	5	Enterococcus	
			PCB in Fish Tissue	

Category 5 Waters – impaired waters that require a TMDL.

Note that although Groveland has a waterbody listed as impaired for mercury in Fish Tissue, the 2016 MS4 Permit does not specific a wasteload allocation or other requirements for MS4 discharges. Thus, there are no requirements related to mercury reduction. Additionally, the permit does not have specific requirements for PCBs in fish tissue or dissolved oxygen.

2.4 Endangered Species Act Determination

In order to be eligible to discharge stormwater under the 2016 MS Permit, the Town of Groveland must certify that its stormwater system is not impacting federally listed rare or endangered species habitat or other critical environmental locations. This was completed in the summer of 2018 as meeting "Criterion B" on the Notice of Intent with the results documented in **Appendix A**. The Northern Long-eared Bat *(Myotis septentrionalis)*, Red Knot *(Calidris canutus rufa)*, and Roseate Tern (*Sterna dougallii dougallii)* were identified as potentially being present within Groveland's regulated area. No critical habitats were identified.

[1]Note that at the time of preparation of this report (March 25, 2019), the 2014 303d list is the most up to date finalized 303d List as approved by USEPA on February 23, 2016.
[2]"Approved TMDLs" are those that have been approved by EPA as of the date of issuance of the 2016 Permit.

2.5 National Historic Preservation Act Determination

Regulated MS4s must also evaluate whether its discharges have the potential to affect historic properties. The MS4 Permit typically authorizes discharges from existing facilities and requires control of the pollutants discharged from the facility, however, EPA does not anticipate effects on historic properties from the pollutants in the authorized discharges. Thus, to the extent EPA's issuance of the MS4 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. If there have been no relevant changes in operation of the MS4 since the 2003 MS4 General Permit, the discharge can still be considered to have no potential to have an effect on historic properties. This has been documented as "Criterion A" on the Notice of Intent (**Appendix A**) and thus no additional information is required for documentation.

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. In these cases, such as during future construction of structural stormwater BMPs, the Town will need to ensure that historic properties will not be impacted by their activities, or that they are in compliance with a written agreement with the State Historic Preservation Officer (SHPO), Tribal Historic Preservation Officer (THPO), or other tribal representative that outlines all measures the applicant will carry out to mitigate or prevent any adverse effects on historic properties. This will be completed as required during a later date(s).

3 MCM 1: Public Education and Outreach

3.1 Summary of Permit Requirements

3.1.1 Core Permit Requirements

Under MCM 1, permittees must develop an educational program, define educational goals, express specific messages, define the targeted audience for each message, and identify responsible parties for program implementation. At a minimum, the program must provide information concerning the impact of stormwater discharges on water bodies within the community, especially those waters that are impaired or identified as priority waters. The program must identify steps and/or activities that the public can take to reduce the pollutants in stormwater runoff and their impacts to the environment.

The Town must address 4 core target audiences, unless 1 of these audiences is not present in the MS4 community:

1. Residents;
2. Businesses, Institutions, and Commercial facilities;
3. Developers and Construction; and
4. Industrial facilities.

At least 2 educational messages must be distributed to audiences over the permit term spaced at least a year apart. See sections below for more information.

3.1.2 TMDL & Impaired Waters Requirements

Public education and outreach programs must also address impaired waterbodies or those identified as priority waters. In Groveland, the only waterbody impairments listed as having specific requirements under the 2016 MS4 Permit are bacteria-related. Thus, priority waterbodies and impairments can be found in **Table 3-1**. Relevant public information on bacteria topics as outlined by the 2016 MS4 Permit will be included with each of the 4 applicable target audiences as outlined below.

Table 3-1. Priority Waterbodies

Waterbody Name	Impairment
Johnson Creek	Escherichia coli
Merrimack River	Enterococcus

3.2 Objectives and Goals

The Town of Groveland will implement an education program that includes educational goals based on stormwater issues of significance within the MS4 area, increase knowledge, and change behavior of the public so that pollutants in stormwater are reduced.

3.3 Existing Public Education Program

In response to requirements under the 2003 permit, Groveland uses several methods of public education and outreach. The following summarizes Groveland's current public education activities that will be continued under the 2016 MS4 Permit:

- **Stormwater Website** – maintain a web presence with information related to stormwater and combined sewer.

- **Stormwater Table –** distribute stormwater information during at least 1 annual event per year.

3.4 Proposed Public Education Program

The following sections outline how Groveland will meet the requirements of the 2016 MS4 Permit by completing targeted outreach to the 4 required audiences. Additionally, since the Town has waterbodies with water quality impairments associated with bacteria, the program will include messages to help minimize contributions of these pollutants, in accordance with the "Enhanced BMPs" requirements in Appendix H of the 2016 MS4 Permit.

3.4.1 Residential

Informational Topics
As required for all communities under the 2016 MS4 Permit, the following topics will be addressed under the Residential public education and outreach program:

- Effects of lawn care (use of pesticides, herbicides, and fertilizers) on water quality;
- Benefits of appropriate on-site infiltration of stormwater;
- Effects of automotive work and car washing on water quality;
- Proper disposal of swimming pool water;
- Proper management of pet waste; and
- Maintenance of septic systems.

As required for waterbodies with bacteria and pathogen TMDLs, the Town shall supplement its Residential program with the following:

- An annual message encouraging the proper management of pet waste;
- Distribute educational materials to dog owners with license issuance or renewal;
- Describe detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance; and
- Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

Educational Message and Methods of Distribution
The following table shows the proposed educational messages and methods of distribution for the above topics, along with responsible parties and measurable goals.

Table 3-2. BMP Description – Residential Outreach

BMP Description	Message	Method of Distribution	Responsible Parties	Measurable Goal
BMP 1-1: Residential Education Program	Brochures and pamphlets	Distribute fact sheets or brochures on pet waste pickup with dog licenses	Town Clerk	Provide Information with all applications and renewals
	Stormwater webpage	Provide relevant information and links for viewing and/or download from Town webpage	Information Technology, Highway Department	Creation of website with periodic updates
	Social media outreach	Provide relevant information to different audiences via various social media platforms	Information Technology	Follow statewide "Think Blue" campaign on social media platforms

The following table lists which of the topics will be covered under each message.

Table 3-3. Residential Public Outreach Topics and Message

Topics and Educational Message	Pet Waste Fact Sheet	Social Media	Stormwater Webpage
Core Program Topics			
Effects of outdoor activities such as lawn care (use of pesticides, herbicides, and fertilizers) on water quality		x	x
Benefits of appropriate on-site infiltration of stormwater		x	x
Effects of automotive work and car washing on water quality		x	x
Proper disposal of swimming pool water;		x	x
Proper management of pet waste	x	x	x
Maintenance of septic systems		x	x
Bacteria Impairment Topics			
An annual message encouraging the proper management of pet waste, including noting any existing bylaws where appropriate	x	x	x
Disseminate educational materials to dog owners at the time of issuance or renewal of a dog license, or other appropriate time	x	x	x
Describe detrimental impacts of improper pet waste management, requirements for waste collection and disposal, and penalties for non-compliance	x	x	x

Table 3-3 (continued). Residential Public Outreach Topics and Message

Topics and Educational Message	Pet Waste Fact Sheet	Social Media	Stormwater Webpage
Bacteria Impairment Topics			
Provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens		x	x

Schedule
Due to the importance of educating Town residents, many of the above topics will be made available continuously via brochures and the website. Information pertaining to the bacteria seasonal messages will be made available on the website continuously with notes provided for the appropriate timeframes for implementing certain topics.

3.4.2 Businesses, Institutions, and Commercial Facilities

Informational Topics
As required for all communities under the 2016 MS4 Permit, the following topics will be addressed under the Business, Institutions, and Commercial public education and outreach program:

- Proper lawn maintenance (use of pesticides, herbicides and fertilizer);
- Benefits of appropriate on-site infiltration of stormwater;
- Building maintenance and storage of materials;
- Proper use and storage of salt or other de-icing and anti-icing materials;
- Proper management of waste materials and dumpsters;
- Proper management of parking lot surfaces;
- Proper car care activities; and
- Proper disposal of swimming pool water by entities such as motels, hotels, and health and country clubs.

Educational Message and Methods of Distribution
The following table shows the proposed educational messages and methods of distribution for the above topics, along with responsible parties and measurable goals. All informational topics will be addressed on the Town's website.

Table 3-4. BMP Description – Businesses, Institutions, and Commercial Outreach

BMP Description	Message	Method of Distribution	Responsible Parties	Measurable Goal
BMP 1-2: Businesses, Institutions, and Commercial Education Program	Stormwater webpage	Provide relevant information and links for viewing and/or download from Town webpage	Information Technology, Highway Department	Creation of website with periodic updates
	Social media outreach	Provide relevant information to different audiences via various social media platforms	Information Technology	Follow statewide "Think Blue" campaign on social media platforms

Schedule
Information pertaining to the Business, Institutions, and Commercial public education and outreach program will be made available continuously on the website and via social media.

3.4.3 Developers and Construction

Informational Topics
As required for all communities under the 2016 MS4 Permit, the following topics will be addressed under the Developers and Construction public education and outreach program:

- Proper sediment and erosion control management practices;
- Information about Low Impact Development (LID) principles and technologies; and
- Information about EPA's construction general permit (CGP).

Educational Message and Methods of Distribution
The following table shows the proposed educational messages and methods of distribution for the above topics, along with responsible parties and measurable goals. All informational topics will be addressed on the Town's website and via erosion control and fact sheets provided to developers when applying for applicable permits.

Table 3-5. BMP Description – Developers and Construction Outreach

BMP Description	Message	Method of Distribution	Responsible Parties	Measurable Goal
BMP 1-3: Developers and Construction Education Program	Brochures and pamphlets	Distribute fact sheets or brochures on erosion and sediment control with permit applications.	Planning Board, Conservation Commission, Building Department	Provide information with all applications.
	Stormwater webpage	Provide relevant information and links for viewing and/or download from Town webpage	Information Technology, Highway Department	Creation of website with periodic updates
	Social Media	Provide relevant information to different audiences via various social media platforms	Information Technology	Follow statewide "Think Blue" campaign on social media platforms

Schedule
Information pertaining to the Developers and Construction will be made available continuously via brochures, on the website, and via social media.

3.4.4 Industrial

Informational Topics
As required for all communities under the 2016 MS4 Permit, the following topics will be addressed under the Industrial public education and outreach program:

- Equipment inspection and maintenance;
- Proper storage of industrial materials and dumpster management;
- Proper management and disposal of wastes;
- Minimization of use and proper storage of salt or other de-icing/anti-icing materials;
- Benefits of on-site stormwater from areas with low exposure to industrial materials;
- Proper maintenance of parking lot surfaces; and
- Information about EPA's CGP.

Educational Message and Methods of Distribution
The following table shows the proposed educational messages and methods of distribution for the above topics, along with responsible parties and measurable goals. All informational topics will be addressed on the Town's website.

Table 3-6. BMP Description – Industrial Outreach

BMP Description	Message	Method of Distribution	Responsible Parties	Measurable Goal
BMP 1-4: Industrial Education Program	Stormwater webpage	Provide relevant information and links for viewing and/or download from Town webpage	Information Technology, Highway Department	Creation of website with periodic updates
	Social Media	Provide relevant information to different audiences via various social media platforms	Information Technology	Follow statewide "Think Blue" campaign on social media platforms

Schedule
Information pertaining to the Industrial public education and outreach program will be made available on the website continuously on the website and via social media.

3.5 Measuring Public Education Program Effectiveness

During completion of the Town's annual report as detailed further under **Section 10**, Groveland will review the effectiveness of each message and the Town's overall education program. Effectiveness is expected to vary by message, however will generally be measured based on quantities of materials distributed and feedback from town employees based on observations in their area of work. Educational messages and/or distribution techniques will be modified as needed, should program managers determine that they are ineffective.

4 MCM 2: Public Participation & Involvement

4.1 Summary of Permit Requirements

Under MCM 2, permittees must provide annual opportunities for public participation in the review and implementation of the Town's SWMP as part of a public education and involvement program. All public involvement activities must comply with state public notice requirements. The SWMP and annual reports must also be made available so that the public has opportunities to review and comment.

4.2 Objectives and Goals

Groveland will implement a public participation and involvement program that provides opportunities for review and implementation of the Town's SWMP. This will help support public education and outreach items under MCM 1.

4.3 Existing Public Participation and Involvement Opportunities

The Town of Groveland provides public participation and involvement opportunities throughout the year. The following summarizes Groveland's current public participation activities that will be continued under the 2016 MS4 Permit:

- **Organic Yard Waste Collection –** allow the public to drop off yard waste during the growing season.

4.4 Proposed Public Participation and Involvement Opportunities

The following outlines how Groveland will meet permit requirements to provide the public with opportunities to participate in reviewing and implementing the SWMP.

4.4.1 Make Documents Publicly Available for Comment

Groveland will make this written SWMP Plan and annual reports available for review and comment via the Town's website, along with the name, email address and/or phone number of a contact person from the Town government to request additional information or submit comments. This will allow the public to comment on the program at least once per year. An updated SWMP Plan will be posted to the website as additional tasks are completed. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 4-1. BMP Description – Make Documents Publicly Available for Comment

BMP Description	Responsible Parties	Measurable Goal
BMP 2-1: Make SWMP Plan Publicly Available	Information Technology, Highway Department	Annual review of stormwater management plan and posting on website. Allow public to comment on the plan at least annually

4.4.2 Organic Yard Waste Collection Program

The Town will provide a drop-off location for residents to dispose of yard waste collected during the growing season. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 4-2. BMP Description – Organic Yard Waste Collection

BMP Description	Responsible Parties	Measurable Goal
BMP 2-2: Organic Yard Waste Collection Program	Highway Department	Provide a drop-off location for yard waste collection during the growing season

5 MCM 3: Illicit Discharge, Detection, and Elimination

5.1 Summary of Permit Requirements

Under MCM 3, permittees must implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its MS4 and implement procedures to prevent such discharges. A summary of the required IDDE activities and timelines are provided below. See sections below for more information.

5.1.1 Legal Authority

The IDDE program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to prohibit, investigate, and eliminate illicit discharges. For permittees authorized by the MS4-2003 permit such as Groveland, the ordinance, bylaw, or other regulatory mechanism was required to be effective by May 1, 2008.

5.1.2 Sanitary Sewer Overflow

Regulated communities must identify all known locations where SSOs have discharged to the MS4 during the previous 5-years and update it annually. Upon detection of an SSO, the permittee must eliminate it as quickly as possible and take interim mitigation measures to minimize or eliminate the discharge of pollutants until remediation work is complete.

5.1.3 System Mapping

Regulated communities must complete a comprehensive map of their stormwater system in 2 phases. Phase 1 must be completed within 2 years and include infrastructure such as outfalls and preliminary catchment delineations, waterbodies, open channel conveyances, interconnections with other MS4s, and structural stormwater BMPs. Phase 2 must be completed within 10 years and include information such as outfalls with high accuracy GPS location and refined catchment delineations, catch basins, manholes, pipe connectivity, and sanitary or combined sewer systems as available/applicable.

5.1.4 Illicit Discharge, Detection, and Elimination Program

The 2016 MS4 Permit requires preparation of a comprehensive written IDDE Program or IDDE Plan that provides detailed procedures for assessment and priority ranking of outfalls and interconnections, dry and wet weather outfall sampling, catchment investigation procedures, system vulnerability factor (SVF) assessment, identification of an illicit discharge, illicit discharge removal, and ongoing screening requirements. The written IDDE Program must be prepared as a standalone IDDE Plan separate from this SWMP Plan.

5.2 Objectives and Goals

The Town of Groveland will implement an IDDE program to systematically find and eliminate sources of non-stormwater discharges to its MS4 and implement procedures to prevent such discharges. The ultimate goal is to remove sources of pollution and improve water quality in receiving waterbodies.

5.3 Existing IDDE Program

The Town of Groveland has completed several items related to its IDDE program. The following summarizes Groveland's current IDDE activities that will be continued under the 2016 MS4 Permit:

- **Stormwater System Mapping** – developed a map of the Town's MS4 infrastructure as feasible. The Town has imported this information as part of its standalone GIS infrastructure library.

5.4 Proposed IDDE Program

The following sections outline how Groveland will meet the requirements of the 2016 MS4 Permit to implement an IDDE program to locate, eliminate, and prohibit illicit discharges.

5.4.1 Establish Legal Authority

Requirements
Permittees must develop an ordinance, bylaw or regulatory mechanism 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.

Work to be Performed
Because no IDDE ordinance currently exists in the Town of Groveland, all of the above requirements will be addressed through the establishment of a legal authority in order to create an IDDE program to satisfy the 2016 MS4 Permit, and is provided under **Appendix C**. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 5-1. BMP Description – Establish IDDE Legal Authority

BMP Description	Responsible Parties	Measurable Goal
BMP 3-1: Enact and Enforce IDDE Bylaw	Highway Department, Board of Health	Develop and enforce IDDE bylaw

5.4.2 Complete System Mapping

Requirements
The 2016 MS4 Permit requires the storm system map to be updated in 2 phases. Phase I mapping must be completed within 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;
- Waterbodies identified by name with a list of impairments as identified on the most recent EPA approved Massachusetts Integrated List of Waters report; and
- Initial catchment delineations based on topography or contributing structures.

Phase II mapping must be completed within 10 years of the effective date of the permit (July 1, 2028) and include the following information:

- Outfall locations (latitude and longitude with a minimum accuracy of +/-30 feet);
- Pipe connectivity;
- Manholes;
- Catch basins;
- Refined catchment delineations based on updated mapping information;
- Municipal sanitary sewer system; and
- Municipal combined sewer system.

Work to be Performed
As noted previously, the Town of Groveland has already begun mapping some aspects of its stormwater system. Current mapping status is provided in **Appendix D**. The Town of Groveland will continue to update its stormwater mapping by the required deadlines to include the above information. All information will be incorporated into its GIS library. Where applicable, GIS information can be exported into other formats, such as Microsoft Excel, for use with annual reporting or tracking. The following table shows the proposed BMPs, responsible parties and measurable goals.

Table 5-2. BMP Description – Complete System Mapping

BMP Description	Responsible Parties	Measurable Goal
BMP 3-2: Phase I Storm Sewer System Map	Highway Department	Complete preliminary system map within 2 years of effective date of permit
BMP 3-3: Phase II Storm Sewer System Map	Highway Department	Complete full system map 10 years after effective date of permit

5.4.3 Complete Sanitary Sewer Overflow Inventory

Requirements

The 2016 MS4 Permit requires municipalities to prohibit illicit discharges, including 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/or vandalism.

Work to be Performed

The Town of Groveland will annually complete an inventory of SSOs that have discharged to the MS4 within the 5 years prior to the effective date of the 2016 MS4 Permit, based on review of available documentation pertaining to SSOs. The SSO inventory will be included in the annual report and the IDDE Plan, including the status of mitigation and corrective measures to address each identified SSO. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 5-3. BMP Description – Generate SSO Inventory

BMP Description	Responsible Parties	Measurable Goal
BMP 3-4: Complete SSO Inventory	Highway Department, Board of Health, Water and Sewer Department	Develop SSO inventory and complete within 1 year of effective date of permit

5.4.4 Develop and Implement Written IDDE Program

Requirements

The Town of Groveland must develop an IDDE Program, the majority of which is contained in a written Illicit Discharge, Detection, and Elimination Plan, a standalone document separate from this SWMP Plan. The IDDE Plan must include a statement of responsibilities and detailed written procedures for the following:

- Assessment and priority ranking of outfalls and interconnections;
- Dry and wet weather outfall sampling;
- Catchment investigation procedures;
- System vulnerability factor (SVF) assessment;
- Identification of an illicit discharge;
- Illicit discharge removal; and
- Ongoing screening requirements.

Work to be Performed

Groveland has developed a written IDDE Plan as a separate standalone document to address the illicit discharge requirements of the 2016 MS4 Permit. Groveland will work towards implementing a comprehensive IDDE Plan and program, according to the schedule set forth

in the permit. The following table shows the proposed BMPs, responsible parties and measurable goals.

Table 5-4. BMP Description – Written IDDE Program and Program Implementation

BMP Description	Responsible Parties	Measurable Goal
BMP 3-5: Written IDDE Program	Highway Department	Create written IDDE program within 1 year of the effective date of the permit and update periodically
BMP 3-6: Outfall / Interconnection Inventory and Ranking	Highway Department	Classify and rank outfalls and interconnections within 1 year of the effective date of the permit.
BMP 3-7: Implement IDDE Program	Highway Department, Board of Health	Implement catchment investigations and complete within 10 years of the effective date of the permit

5.4.5 Perform Dry and Wet Weather Outfall Screening

Requirements

Outfalls and contributing catchment areas must be categorized into Problem, High, Low, and Excluded outfalls and then ranked within each category. Additionally, catchments draining to each of the waterbodies designated as impaired for pathogens must be classified as either "Problem Catchments" or "High" priority as outlined further in Section 9. The 2016 MS4 Permit then requires all outfalls classified as High and Low to be inspected for the presence of dry conditions within 3 years of the permit effective date. While completing screening, permittees must also document various physical indicators of the outfall and sample flowing outfalls. Additionally, outfalls with at least 1 SVF must also be sampled during wet weather. Depending on the results, additional screening and sampling may be required further up into the contributing catchment. Once dry and wet weather sampling is complete, additional ongoing screening shall be performed once every 5 years in accordance with the catchment prioritization and ranking. Both dry and wet weather outfall screening must be conducted in accordance with screening procedures outlined in the written IDDE Plan. All sampling results shall be reported in the permittee's annual report.

Work to be Performed

Groveland developed an outfall sampling program under the IDDE Plan which will be implemented moving forward according to the schedule outlined in the 2016 MS4 Permit. This will include dry and wet weather screening on Town outfalls, including those with SVFs where applicable. Ongoing screening will also be performed after the conclusion of the initial sampling rounds. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 5-5. BMP Description – Perform Dry and Wet Weather Outfall Screening

BMP Description	Responsible Parties	Measurable Goal
BMP 3-8: Dry Weather Screening	Highway Department	Complete in accordance with outfall screening procedure within 3 years of the effective permit date
BMP 3-9: Wet Weather Screening	Highway Department	Complete in accordance with outfall screening procedure within 10 years of the effective permit date
BMP 3-10: Ongoing Screening	Highway Department	Conduct ongoing dry and wet weather outfall screening upon completion of the IDDE program

5.4.6 Perform Annual IDDE Training

The 2016 MS4 Permit requires annual IDDE training to be provided to all employees involved in the IDDE program. Therefore, Groveland will provide annual training that will at a minimum include information on how to identify illicit discharges and may also include additional training specific to the functions of particular personnel and their function within the framework of the IDDE program. The Highway Department and Board of Health will be the sole municipal departments responsible for implementing the IDDE program, and thus training will focus on these departments. Frequency and type(s) of training will be included in the annual report. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 5-6. BMP Description – Perform Annual IDDE Training

BMP Description	Responsible Parties	Measurable Goal
Perform IDDE Training	Highway Department, Board of Health	Complete annual training

5.5 Measuring IDDE Program Effectiveness

The success of the IDDE Program will be evaluated according to the following parameters:

- Storm system mapping 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 procedures;
- Updated SVF and catchment inventory and ranking;
- Dry weather and wet weather screening and sampling results;
- Estimated volume or quantity of sewage removed; and
- Number of employees successfully trained on IDDE.

The above will be tracked throughout the year and reported as part of each annual report submitted to EPA each year by September 29.

6 MCM 4: Construction Site Stormwater Runoff Control

6.1 Summary of Permit Requirements

Under MCM 4, permittees are required to implement and enforce a program to reduce pollutants in stormwater runoff discharged to the MS4 from all construction activities that result in a land disturbance of greater than or equal to 1 acre within the regulated area. This program shall also regulate disturbances less than 1 acre if they are part of a larger common plan of development or sale that would disturb 1 or more acres. A summary of the required Construction Site Stormwater Runoff Control Program activities and timelines are provided below:

6.1.1 Legal Authority

The Construction Site Stormwater Runoff Control Program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to:

- Require the use of sediment and erosion control practices at construction sites; and
- Include controls for other wastes on construction sites.

For permittees authorized by the MS4-2003 permit such as Groveland, the ordinance, bylaw, or other regulatory mechanism was required to be effective by May 1, 2008.

6.1.2 Construction Site Stormwater Runoff Control Program

The 2016 MS4 Permit requires preparation of a written Construction Site Stormwater Runoff Control Program procedures that includes pre-construction site plan review and onsite construction inspections. Permittees must also establish requirements for developers to implement a Sediment and Erosion Control Program as part of its Construction Site Stormwater Runoff Control Program that includes BMPs to reduce pollutant sources from construction sites. This program should also include requirements for controlling other wastes during construction.

6.2 Objectives and Goals

The Town of Groveland will implement an effective construction stormwater runoff control program to minimize or eliminate erosion and maintain sediment onsite so that it is not transported in stormwater and allowed to discharge to a water of the U.S through the permittee's MS4.

6.3 Existing Construction Site Stormwater Runoff Control Program

The Town of Groveland has completed a number of existing program measures to satisfy construction site stormwater runoff requirements. The following summarizes Groveland's current activities that will be continued under the 2016 MS4 Permit:

- **Adopted a Stormwater Management Bylaw** – enacted a "Stormwater Management and Land Disturbance Bylaw" bylaw regulating construction projects greater than 1 acre under Chapter 14 of the town's General Bylaws, dated April 30, 2007.

- **Required Site Plan Reviews** – require third-party engineering firms to conduct peer reviews for all construction projects disturbing greater than 20,000 square feet through the "Stormwater Management and Land Disturbance Permit Application" program.

- **Storm Water Management & Erosion and Sedimentation Control Plan –** the application for the Stormwater Management and Land Disturbance Permit requires all applicants to prepare a Storm Water Management & Erosion and Sedimentation Control Plan for submission to the Planning Board that in part outlines erosion and sediment controls to be installed.

- **Weekly Inspection Reports** – the application for the Stormwater Management and Land Disturbance Permit requires all applicants to conduct and document inspections of all erosion and sediment control measures, and submit bi-weekly inspection reports to the Planning Board for review.

6.4 Proposed Construction Site Stormwater Runoff Control Program

The following sections outline how Groveland will meet the requirements of the 2016 MS4 Permit to establish a Construction Site Stormwater Runoff Control Program.

6.4.1 Establish Legal Authority

Requirements
Permittees must develop an ordinance, bylaw or regulatory mechanism to:

- Require the use of sediment and erosion control practices at construction sites;
- Include controls for other wastes on construction sites.

Work to be Performed
The Town of Groveland previously enacted a "Stormwater Management and Land Disturbance Bylaw" bylaw (**Appendix C**) regulating construction projects greater than 1

acre under Chapter 14 of the town's General Bylaws, dated April 30, 2007. This comprehensive bylaw in part requires use of soil erosion and sediment controls to stormwater runoff at construction sites, and also includes controls for other wastes at construction sites. It is anticipated that this bylaw meets 2016 MS4 Permit requirements, however, the Town will perform a detailed regulatory assessment on its existing bylaw to determine whether any additions are necessary for permit compliance within 1 year of the effective permit date. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 6-1. BMP Description – Establish Construction Site Legal Authority

BMP Description	Responsible Parties	Measurable Goal
BMP 4-1: Develop and Enforce Construction Bylaw	Planning Board, Conservation Commission, Building Department	Complete bylaw within 1 year of the effective date of the permit

6.4.2 Establish Written Procedures for Site Plan Review

Requirements

The 2016 MS4 Permit requires establishing written procedures for pre-construction plan review of the site design, planned operations, planned BMPs during the construction phase, and planned BMPs to manage runoff after development that includes the following:

- Potential water quality impacts;
- Consideration of information submitted by the public; and
- Evaluation of opportunities for use of LID and green infrastructure (GI).

Work to be Performed

As noted previously, the Town of Groveland requires the review of proposed site plans by an outside third-party engineering firm for all construction projects disturbing greater than 20,000 square feet through the "Stormwater Management and Land Disturbance Permit Application" program. It is anticipated that the Town meets permit requirements, however, Groveland will reassess its current site plan review program for compliance with the 2016 MS4 Permit and make changes as required within 1 year of the effective date. In addition, procedures must be established to track the number of site reviews, and will be done as part of the annual reporting requirements. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 6-2. BMP Description – Establish Site Plan Review Procedures

BMP Description	Responsible Parties	Measurable Goal
BMP 4-2: Develop Witten Procedures for Site Plan Review	Planning Board, Conservation Commission, Building Department	Establish procedures for site plan review within 1 year of the effective date of the permit

6.4.3 Establish Procedures for Site Inspections and Enforcement

Requirements

The 2016 MS4 Permit requires the development of written procedures for site inspections and enforcement actions to take place both during construction of BMPs and after construction of BMPs is completed to ensure they are working as described in the approved plans. Procedures must define the following:

- Who is responsible for site inspections;
- Qualifications necessary to perform inspections;
- Who has authority to implement enforcement procedures;
- Ability to impose sanctions to ensure program compliance;
- The use of standardized inspection forms (if appropriate); and
- How to track the number inspections and enforcement actions for reporting in the Annual Report.

Work to be Performed

As noted previously, the Town performs periodic on-site inspections for all large projects throughout construction duration, including a kickoff meeting, after erosion and sediment controls are in place, after site clearing is completed, after rough and final grading phases are completed, after final landscaping is installed, and/or at the close of construction season. Additional inspections are required weekly and after large storm events of at least ½-inch in magnitude. It is anticipated that the Town meets permit requirements, however, Groveland will review its current inspection process and determine if changes are required within 1 year of the effective date. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 6-3. BMP Description – Establish Site Inspections and Enforcement Procedures

BMP Description	Responsible Parties	Measurable Goal
BMP 4-3: Develop Written Procedures for Site Inspections and Enforcement	Planning Board, Conservation Commission, Building Department	Establish procedures for site inspections and enforcement within 1 year of the effective date of the permit

6.4.4 Establish a Sediment and Erosion Control Program

Requirements

Permittees must establish requirements for construction site operators performing land disturbance activities within the MS4 jurisdiction that result in stormwater discharges to the MS4 to implement a sediment and erosion control program that includes BMPs appropriate for the conditions at the construction site. Examples of sediment and erosion control measures for construction sites include local requirements to:

1. Minimize the amount of disturbed area and protect natural resources;
2. Stabilize sites when projects are complete or operations have temporarily ceased;
3. Protect slopes on the construction site;

5. Protect all storm drain inlets and armor all newly constructed outlets;
6. Use perimeter controls at the site;
7. Stabilize construction site entrances and exits to prevent off-site tracking;
8. Inspect stormwater controls at consistent intervals.

Work to be Performed

Per previous sections, the Town of Groveland has multiple regulatory mechanisms in place through its various town departments and general bylaws to meet this requirement. This includes preparation and submittal of a Stormwater Management Plan, Erosion and Sediment Control Plan, and Stormwater Operation and Maintenance Plan for review by the planning board. It is anticipated that the Town meets permit requirements, however, Groveland will reassess its review program for compliance with the 2016 MS4 Permit and make changes as required within1year of the effective date. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 6-4. BMP Description – Develop an Erosion and Sediment Control Program

BMP Description	Responsible Parties	Measurable Goal
BMP 4-4: Procedures for Erosion and Sediment Control	Planning Board, Conservation Commission, Building Department	Establish procedures for development of an erosion and sediment control program within 1 year of the effective date of the permit
BMP 4-5: Develop Procedures for Waste Control	Planning Board, Conservation Commission, Building Department	Establish requirements to control construction site wastes within 1 year of the effective date of the permit

7 MCM 5: Stormwater Management in New Development and Redevelopment

7.1 Summary of Permit Requirements

Under MCM 5, permittees shall develop, implement, and enforce a program to address post-construction stormwater runoff from new development and redevelopment sites that disturb 1 or more acres and discharge into an MS4 system. This program shall also regulate disturbances less than 1 acre if they are part of a larger common plan of development or sale that would disturb 1 or more acres. A summary of the required Stormwater Management in New Development and Redevelopment, also known as Post Construction Stormwater Management, activities and timelines are provided below:

7.1.1 Legal Authority

The Post Construction Stormwater Management Program shall include adequate legal authority in the form of a currently effective ordinance, bylaw, or other regulatory mechanism to:

- Require LID site planning and design strategies;
- Meet many of the requirements of the Massachusetts Stormwater Handbook and associated stormwater standards;
- Incorporate runoff volume storage and/or pollutant removal requirements; and
- Meet additional requirements for TMDL and water quality limited waterbodies.

Updates must be made within 2 years of the effective permit date.

7.1.2 As-Built Submittals

The permittee must require the submission of as-built drawings within 2 years after completion of construction projects and include structural and non-structural controls.

7.1.3 Operation and Maintenance

The program must include procedures to ensure adequate long-term operation and maintenance of BMPs are established after completion of a construction project, along with a dedicated funding source within 2 years of the effective permit date.

7.1.4 Regulatory Assessment

The permittee must complete an assessment of existing regulations that could affect creation of impervious cover to determine if changes are required to support LID. Additionally, the permittee must assess current regulations to ensure that certain green infrastructure is allowable where feasible. Any required changes must be completed within 4 years of the effective permit date.

7.1.5 Inventory of Potential Retrofit Sites

The permittee must complete an inventory within 4 years of the effective permit date to determine at least 5 permittee-owned properties that could be modified or retrofitted with stormwater BMP improvements.

7.2 Objectives and Goals

The Town of Groveland will implement and enforce a program to reduce pollutants in stormwater runoff discharged to the MS4 from all construction activities that result in a land disturbance greater than or equal to 1 acre within the regulated area.

7.3 Existing Post Construction Stormwater Management

The Town of Groveland has completed a number of existing program measures to satisfy construction site stormwater runoff requirements. The following summarizes Groveland's current activities that will be continued under the 2016 MS4 Permit:

- **Adopted a Stormwater Management Bylaw** – enacted a "Stormwater Management and Land Disturbance Bylaw" bylaw regulating construction projects greater than 1 acre under Chapter 14 of the town's General Bylaws, dated April 30, 2007.

- **Storm Water Management & Erosion and Sedimentation Control Plan –** the application for the Stormwater Management and Land Disturbance Permit requires all applicants to prepare a Storm Water Management & Erosion and Sedimentation Control Plan for submission to the Planning Board that in part outlines post-development stormwater infrastructure to be installed in accordance with MassDEP's Storm Water Management Policy.

- **As-Built Submission** – the "Stormwater Management and Land Disturbance Bylaw" requires developers to submit as-built plans of stormwater management facilities to the Planning Board upon completion of work.

- **Operation and Maintenance Plans** – the application for the Stormwater Management and Land Disturbance Permit requires all applicants to prepare a Stormwater Operation & Maintenance Plan for submission to the Planning Board.

7.4 Proposed Post-Construction Stormwater Management Program

The following sections outline how Groveland will meet the requirements of the 2016 MS4 Permit to establish a Post-Construction Stormwater Management Program.

7.4.1 Establish Legal Authority

Requirements
Under the 2016 MS4 Permit, permittees shall develop or modify an ordinance, bylaw, or other regulatory mechanism within 2 years of the effective date of the permit to contain provisions that are as least as stringent as the following:

1. Use LID site planning and design strategies to the maximum extent feasible;
2. Design of treatment and infiltration practices should follow Volume 2 of the Massachusetts Stormwater Handbook and associated Standards;
3. Stormwater management systems on new development sites shall be designed to:
    a) Not allow untreated stormwater discharges (Standard 1), control peak runoff rates (Standard 2), recharge groundwater (Standard 3), eliminate or reduce discharge of pollutants from land uses with higher pollutant loads (Standard 5), protect Zone II or Interim Wellhead Protection Areas (Standard 6), and implement long term maintenance practices (Standard 9); and
    b) Require that all stormwater management systems be designed to:
        1) Retain the volume of runoff equal to at least 1.0 inches over the total post-construction impervious surface area on the site and/or
        2) Remove 90% of the average annual Total Suspended Solids (TSS) load and 60% of the average annual Total Phosphorus (TP) load from the total post-construction impervious surface area on the site.
4. Redevelopment Requirements
    a) Stormwater management systems on Redevelopment sites shall meet to following to the maximum extent feasible:
        1) Standards 1, 2, and 3, and pretreatment and structural BMP requirements of Standards 5 and 6.
    b) Stormwater management systems on Redevelopment sites shall also improve existing conditions by requiring stormwater BMPs be designed to:
        1) Retain the volume of runoff equal to at least 0.80 inches over the total post-construction impervious surface area on the site and/or
        2) Remove 80% of the average annual TSS load and 50% of the TP load from the total post-construction impervious area on the site.
    c) Redevelopment activities that are limited to maintenance and improvement of existing roads, (including widening less than a single lane, adding shoulders, improving existing drainage systems, and repaving projects) shall improve existing conditions where feasible and are exempt from other parts above.

Work to be Performed
The Town of Groveland previously enacted an Stormwater Management and Land Disturbance Bylaw" dated April 30, 2007 to meet post-construction requirements. This bylaw addresses some of the 2016 MS4 Permit requirements, however, does not meet all requirements. Therefore, the Town of Groveland will review and update its existing bylaw within 2 years of the effective permit date to meet permit requirements. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 7-1. BMP Description – Establish Post-Construction Site Legal Authority

BMP Description	Responsible Parties	Measurable Goal
BMP 6-1: Develop and Enforce Post-Construction Bylaw	Planning Board, Conservation Commission, Building Department	Complete bylaw within 2 years of the effective date of the permit

7.4.2 Require Submittal of As-Built Plans

As noted previously, the Town of Groveland requires developers to submit as-built plans of stormwater management facilities to the Planning Board for review, which must include all stormwater drainage structures. However, the bylaw does not specifically require depiction of structural or non-structural stormwater controls or a timeframe for submittal. Therefore, the Town of Groveland will review and update its bylaw within 2 years of the effective permit date to meet permit requirements. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 7-2. BMP Description – Require Submittal of As-Built Plans

BMP Description	Responsible Parties	Measurable Goal
BMP 6-2: Require Stormwater As-Built Plan Submittal	Planning Board, Conservation Commission, Building Department, Highway Department	Require submittal of as-built plans for completed projects within 2 years of completion

7.4.3 Require Long Term Operation and Maintenance

As noted previously, the Town of Groveland requires developers to prepare an Operation and Maintenance Plan for submission to the Planning Bard. However, compliance with the Massachusetts surface water quality standards does not appear to be required for O&M Plans, establishment of a dedicated funding source, or a requirement for submittal within 2 years. Therefore, the Town of Groveland will review and update its bylaw within 2 years of the effective permit date to meet permit requirements. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 7-3. BMP Description – Require Long Term Operation and Maintenance Plans

BMP Description	Responsible Parties	Measurable Goal
BMP 6-3: Require Long Term Operation and Maintenance	Planning Board, Conservation Commission, Building Department, Highway Department	Require submittal of operation and maintenance plans and dedicated funding to ensure long term maintenance within 2 years of the effective date of the permit

7.4.4 Complete Regulatory Assessment

Requirements
The 2016 MS4 permit requires permittees to complete a report that assesses current street design, parking lot guidelines, and other local requirements that could affect creation of impervious cover to determine if changes to existing design standards are required to support LID. If the assessment indicates that changes can be made, the assessment shall include recommendations and proposed schedules to incorporate policies and standards into relevant documents and procedures to minimize impervious cover. Any required changes to reduce mandatory creation of impervious cover in support of LID should be made within 4 years of the effective permit date.

Additionally, the permittee must complete a report that assesses current regulations to determine the feasibility of allowing green roofs, infiltration practices, porous/pervious pavement, and water harvesting/storage devices where feasible. The assessment must indicate if the practices are allowed in the MS4 area and under what circumstances they are 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. Any required changes to allow for these BMPs must be completed within 4 years of the effective permit date.

Work to be Performed
The Town of Groveland has not yet performed a comprehensive review of all regulations for the above items. Although no known barriers to LID and GI are known, the Town will review and update relevant regulations within 4 years of the effective permit date to meet permit requirements. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 7-4. BMP Description – Complete LID and GI Regulatory Updates

BMP Description	Responsible Parties	Measurable Goal
BMP 6-4: Street design and parking lot guidelines	Planning Board, Conservation Commission, Zoning Board	Complete regulatory updates within 4 years of the effective date of the permit
BMP 6-5: Allow green infrastructure	Planning Board, Conservation Commission, Zoning Board, Building Department	Complete regulatory updates within 4 years of the effective date of the permit

7.4.5 Complete Inventory of Potential BMP Retrofit Sites

Requirements
Permittees must complete an inventory of at least 5 existing permittee-owned properties that could be modified or retrofitted with structural stormwater BMP improvements to reduce the

frequency, volume, and pollutant loads within 4 years of the effective permit date. The inventory provided in **Appendix E** should include municipal properties with significant impervious cover such as parking lots, buildings, and maintenance yards, along with infrastructure such as existing rights-of-way, outfalls and stormwater conveyances such as swales or detention practices. The permittee should address potential site constraints that could hinder BMP construction, such as subsurface conditions, depth to water table, and utility impacts, and should ideally allow opportunities for public education.

Beginning with the fifth annual report, should BMPs at 1 or more sites be constructed, the inventory should be updated so that it always contains at least 5 sites in the inventory for potential improvement. The permittee must report on all properties that have been modified or retrofitted to mitigate impervious area.

Work to be Performed

The Town of Groveland will complete an inventory (**Appendix E**) of at least 5 properties that could be retrofitted with stormwater BMPs, along with a review of existing site conditions within 4 years of the effective date. This inventory will be updated continuously starting in Year 5. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 7-5. BMP Description – Complete Inventory of Properties for BMP Retrofit

BMP Description	Responsible Parties	Measurable Goal
BMP 6-6: Target properties to reduce impervious area	Planning Board, Conservation Commission, Highway Department	Complete inventory within 4 years of the effective date of the permit and update annually on retrofitted properties

8 MCM 6: Good Housekeeping and Pollution Prevention

8.1 Summary of Permit Requirements

Under MCM 6, permittees shall develop and implement an operations and maintenance program to reduce stormwater pollution from permittee activities. This includes optimizing existing activities related to parks and open space, buildings and facilities, vehicles and equipment, and stormwater infrastructure maintenance. A summary of the required Good Housekeeping and Pollution Prevention for Permittee Owned Operations activities and timelines is provided below.

8.1.1 Operations and Maintenance Programs

Permittees shall develop written operations and maintenance procedures for parks and open space, buildings and facilities, vehicles and equipment, winter road maintenance, stormwater infrastructure, and structural stormwater BMPs within 2 years of the effective permit date. This program shall also optimize catch basin cleaning and street sweeping, along with establishing proper storage techniques for cleaning residuals. All maintenance activities, inspections, and training shall be logged for annual reporting.

8.1.2 Stormwater Pollution Prevention Plans

Develop and implement Stormwater Pollution Prevention Plans (SWPPPs) for municipally-owned maintenance garages, public works yards, transfer stations within 2 years of the effective permit date.

8.2 Existing Good Housekeeping and Pollution Prevention Program

The Town of Groveland has completed several items related to its good housekeeping and pollution prevention program. The following summarizes Groveland's current activities that will be continued under the 2016 MS4 Permit:

- **Street and Parking Lot Sweeping** – sweep streets and permittee-owned parking lots in the spring. The Town's current Street Sweeping Prioritization Plan can be found in **Appendix F**.

- **Catch Basin Cleaning** – clean all catch basins once a year and repair as needed. Groveland also prepared a Catch Basin Optimization Plan that outlines the plans, procedures, and schedules for establishing a goal that sumps are never more than 50% full. The plan can be found as **Appendix G**.

- **Winter Roadway Maintenance Optimization** – prepared snow and ice management procedures to minimize pollution sources. Groveland prepared and documented existing and proposed winter O&M items to be included under a separate Operation and Maintenance document as noted under Section 1.4.

- **BMP Inspection and Maintenance** – perform inspections of Town-owned stormwater BMPs during routine operations.

8.3 Proposed Good Housekeeping and Pollution Prevention Program

The following sections outline how Groveland will meet the requirements of the 2016 MS4 Permit to establish a Good Housekeeping and Pollution Prevention Program.

8.3.1 Complete Facilities O&M Procedures

Requirements
The permittee must complete an inventory of all parks and open space, buildings and facilities where pollutants are exposed to stormwater runoff, including those coming from vehicles and equipment, within 2 years of the permit effective date. The inventory must be reviewed annually and updated as necessary. Upon completion, the permittee must establish written procedures as part of a Operation and Maintenance Plan within 2 years of the permit effective date for the following items:

Parks and Open Space

- Proper use, storage, and disposal of pesticides, herbicides, and fertilizers;
- Lawn maintenance and landscaping activities to protect water quality, such as reducing mowing, lawn clippings handling, and use of alternative materials;
- Pet waste handling collection and disposal locations at all locations where pets are permitted, including signage;
- Control of waterfowl in areas where they congregate to reduce waterfowl droppings from entering the MS4s;
- Management of trash containers; and
- Addressing erosion or poor vegetative cover, particularly near a surface waterbody.

Buildings and Facilities

- Use, storage, and disposal of petroleum products and other potential pollutants.
- Materials handling training to applicable employees;
- Ensuring that Spill Prevention, Control, and Countermeasures (SPCC) Plans are in place if needed (aboveground petroleum storage greater than 1,320 gallons or underground petroleum storage greater than 42,000 gallons);
- Dumpsters and other waste management equipment; and
- Sweeping parking lots and keeping facility areas clean to reduce pollutants in runoff.

Vehicles and Equipment

- Storage of vehicles to prevent fluid leaks to stormwater;
- Fueling area evaluation, including feasibility of fueling under cover; and
- Preventing vehicle wash waters from entering surface waters or the MS4.

Work to be Performed

As noted previously, the Town has several existing practices in place, including procedures to address street sweeping, employee training, road salt minimization, and catch basin cleaning. Remaining items above will be incorporated into a detailed written Operation and Maintenance Plan, a standalone document separate from this SWMP Plan, to cover applicable Town-owned facilities. This document will also include the inventory of relevant Town-owned properties. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 8-1. BMP Description – Complete Written Facilities O&M Procedures

BMP Description	Responsible Parties	Measurable Goal
BMP 6-1: Inventory open spaces, buildings and facilities, and vehicles and equipment	Highway Department, Building Inspector	Complete inventory of open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit
BMP 6-2: Establish Operation and Maintenance Procedures	Highway Department	Create written O&M Plan for open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit

8.3.2 Complete Infrastructure O&M Procedures

Requirements

The permittee must establish written procedures as part of an Operation and Maintenance Plan within 2 years of the permit effective date to ensure that MS4 infrastructure is maintained in a timely manner to reduce the discharge of pollutants from the MS4 for the following items:

Street Sweeping (**Appendix F)**

- Sweeping all streets and permittee-owed parking lot, with the exception of rural uncurbed roads with no catch basins or high-speed limited access highways at least 1 per year in the spring following winter sanding events;
- More frequent sweeping of targeted areas based on inspections, land use, or known water quality impacts; and
- For rural uncurbed roadways with no catch basins or limited access highways, either an evaluation to meet the minimum frequencies above or development and implementation of an inspection, documentation, and targeted sweeping plan within 2 years of the effective date and submitted with the Year 1 annual report.

Catch Basin Cleaning (**Appendix G)**

- Prioritization of catch basins located near construction activities for more frequent inspection and maintenance;
- Establishing a schedule with a goal that at the time of maintenance, no catch basin is more than 50% full;
- For catch basins that are more than 50% full during 2 consecutive inspections or cleaning events, methods for investigating the contributing drainage area for sources of excessive sediment loads; and
- Establishing a plan for optimizing catch basin cleaning, inspections, and documentation.

Catch Basin and Street Sweeping Residuals Management

- Ensure proper storage of catch basins cleanings and street sweepings prior to disposal or reuse such that they will not be discharged to receiving waters based on available MassDEP policies.

Winter Operation and Maintenance

- Establish and implement procedures for winter road maintenance including the use and storage of salt and sand
- Minimizing use of sodium chloride and other salts and evaluation of opportunities to use alternative materials; and
- Ensuring that snow disposal activities do not result in disposal of snow into waters of the United States.

Work to be Performed

As noted previously, the Town recently updated its existing street sweeping, catch basin cleaning, and winter O&M procedures in order to meet permit requirements. Street sweeping is expected to continue under the existing Street Sweeping Prioritization Plan provided in **Appendix F** for at least several years, possibly expanded in Year 4 and beyond. Catch basin prioritization will also continue for the next several years as catch basin inspections continue according to the methodology and schedule outlined in the Catch Basin Optimization Plan provided in **Appendix G**. Results will be reviewed at the end of each year to determine recommended next steps. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 8-2. BMP Description – Complete Written Infrastructure O&M Procedures

BMP Description	Responsible Parties	Measurable Goal
BMP 6-3: Review Infrastructure O&M Procedures	Highway Department	Create written O&M Plan for stormwater infrastructure within 2 years of the effective date of the permit
BMP 6-4: Catch Basin Cleaning	Highway Department	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually

Table 8-2 (continued). BMP Description – Complete Written Infrastructure O&M Procedures

BMP Description	Responsible Parties	Measurable Goal
BMP 6-5: Street Sweeping	Highway Department	Sweep all streets and parking lots at least annually
BMP 6-6: Develop road salt optimization program	Highway Department	Implement salt use optimization during winter maintenance operations

8.3.3 Stormwater Pollution Prevention Plans

Requirements

The permittee must establish written Stormwater Pollution Prevention Plans for 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 as determined by the permittee. SWPPPs must address a number of components, including the following:

- Pollution Prevention Team;
- Facility description, identification of potential pollutant sources, and identification of stormwater controls;
- Stormwater management practices, including measures to minimize or prevent exposure, good housekeeping and preventative maintenance, spill prevention and response, erosion and sediment control, management of runoff, salt storage, employee training, and control measure maintenance; and
- Procedures for site inspections and sampling.

Work to be Performed

The Town of Groveland will perform a preliminary analysis of regulated facilities to determine which facilities, if any, are located within areas that drain to the MS4. This assessment will take place during the first half of Year 2 to determine which facilities require SWPPPs. Should SWPPPs for any facility be required, they will be prepared by the end of Year 2 of the permit to ensure compliance with permit requirements. A listing of facilities evaluated and status of SWPPPs will be maintained in **Appendix H**. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 8-3. BMP Description – Prepare SWPPPs for Regulated Facilities

BMP Description	Responsible Parties	Measurable Goal
BMP 6-7: Assess regulated facilities to determine SWPPP eligibility	Highway Department	Complete facilities assessment within 2 years of the effective date of permit.
BMP 6-8: Develop SWPPPs for applicable facilities	Highway Department	Complete and implement within 2 years of the effective date of the permit

8.3.4 Structural Stormwater BMP Inspections

Requirements
The permittee must establish and implement written inspection and maintenance procedures and frequencies for all stormwater treatment structures, such as infiltration and detention basins, proprietary stormwater treatment structures, gravel wetlands, etc. at least annually.

Work to be Performed
The Town of Groveland currently performs inspections of Town-owned stormwater BMPs during routine operations and will complete an inventory (**Appendix I**) of known structural stormwater BMPs by the end of Year 2 as required by MCM 3, mapping requirements. Once an inventory has been completed, the Town will develop a formalized inspection and maintenance procedures for the various types of BMPs located within the Town's regulated area. The O&M Plan will also document logs for BMP inspection and maintenance. The following table shows the proposed BMP, responsible parties and measurable goals.

Table 8-4. BMP Description – Inspect Structural BMPs Annually

BMP Description	Responsible Parties	Measurable Goal
BMP 6-9: Establish BMP O&M Procedures	Highway Department	Create written O&M Plan for stormwater BMPs within 2 years of the effective date of the permit
BMP 6-10: Inspect and maintain stormwater BMPs	Highway Department	Inspect and maintain treatment structures annually

BMP inspection Standard Operating Procedures (SOPs) and results will be tracked under the standalone O&M Plan under separate cover.

9 TMDL and Impaired Waters Controls

9.1 Permit Requirements

The 2016 MS4 Permit requires regulated operators of MS4s to determine whether stormwater discharges from their MS4 contribute to any impaired waterbodies, including those subject to an approved TMDL and certain water quality limited waterbodies. Water quality limited waters are any waterbodies that do not meet applicable water quality standards, including waterbodies listed in categories "4a" and "5" on the Massachusetts Integrated List of Waters, also known as the "303(d) List". MassDEP is responsible for preparing TMDLs for many of these listed waters to identify the problem pollutant and establish water quality goals. TMDLs are prepared based on the priority assigned to the waterbody and are being completed over the course of several years.

As outlined in Section 2.3, the Town of Groveland is subject to the following TMDL and impaired waters requirements:

Table 9-1. TMDL and Impaired Waters Requirements

Waterbody Name	Impairment	2016 Permit Requirements
Johnson Creek	Escherichia coli	Appendix H, Part III
Merrimack River	Enterococcus	Appendix H, Part III

Thus, the Town of Groveland must implement control measures for discharges to impaired waters without a TMDL as summarized in the sections below.

9.2 Bacteria Water Quality Limited Waterbodies Requirements

The Town of Groveland currently has 2 waterbodies that are impaired for bacteria, thus, the Town is required to implement the following requirements as outlined under Appendix H, Part III of the 2016 Permit.

9.2.1 Additional or Enhanced BMPs

The Town of Groveland must include the following additional or enhanced BMPs, in addition to the 6 MCMs outlined previously:

- **Public Education** – supplement its Residential program with an annual message encouraging the proper management of pet waste and disseminate educational materials to dog owners at the time of issuance or renewal of a dog license. Education materials shall describe the detrimental impacts of improper management of pet waste, requirements for waste collection and disposal, and penalties for non-compliance. The Town also must provide information to owners of septic systems about proper maintenance in any catchment that discharges to a water body impaired for bacteria or pathogens.

- **Illicit Discharge, Detection, and Elimination** – designate catchments draining to bacteria or pathogen impaired segments as "Problem Catchments" or "High" priority.

Work to be Performed
Public education requirements have been incorporated into future public education outreach components as described in Section 3. IDDE requirements have been incorporated into Groveland's IDDE Plan.

Table 9-2. Water Quality Limited Waterbody Requirements – Bacteria

BMP Description	Responsible Parties	Measurable Goal
BMP 7-1: Water Quality Limited Waterbody Requirements – Bacteria	Road Agent, Town Clerk, Board of Health, Water and Sewer Department	Adhere to requirements in part III of Appendix H

10 Annual Reporting

The permittee shall submit annual reports each year of the permit term. The reporting period will be a one-year period commencing on the permit effective date, and subsequent anniversaries thereof, except that the first annual report under this permit shall also cover the period from May 1, 2018 to the permit effective date. The annual report is due 90 days from the close of each reporting period, or by September 29 of each year. The annual reports must contain the following relevant information which should be tracked throughout the year, and should be filed within **Appendix J**:

- A self-assessment review of compliance with the permit terms and conditions.
- An assessment of the appropriateness of the selected BMPs.
- The status of any plans or activities, including:
    - Identification of all discharges determined to be causing or contributing to an exceedance of water quality standards and description of response;
    - For discharges subject to TMDL or water quality limited waterbody requirements, identification of BMPs used to address the impairment and assessment of the BMPs effectiveness;
    - For discharges to water quality limited waters a description of each BMP and any deliverables required.
- An assessment of the progress towards achieving the measurable goals and objectives of each of the 6 minimum measures:
    - Evaluation of the public education program including a description of the targeted messages for each audience; method and dates of distribution; methods used to evaluate the program; and any changes to the program.
    - Description of the activities used to promote public participation including documentation of compliance with state public notice regulations.
    - Description of IDDE activities including: status of mapping and results of the ranking and assessment; identification of problem catchments; status of all IDDE Plan components; number and identifier of catchments evaluated; number and identifier of outfalls screened; number of illicit discharges located and removed; gallons of flow removed; identification of tracking indicators and measures of progress; and employee training.
    - Evaluation of construction runoff management including number of project plans reviewed; number of inspections; and number of enforcement actions.
    - Evaluation of stormwater management for new and redevelopment including status of bylaw development; review and status of the street design and barriers to green infrastructure assessment; and inventory status.
    - Status of the O&M Programs.
    - Status of SWPPPs, including inspection results.
- All outfall screening and monitoring data during the reporting period and cumulative for the permit term; and a description of any additional monitoring data received by the permittee during the reporting period.
- Description of activities for the next reporting cycle.
- Description of any changes in identified BMPs or measurable goals.
- Description of activities undertaken by any entity contracted for achieving any measurable goal or implementing any control measure.

11 Implementation of Best Management Practices

The Town of Groveland's Best Management Practices Plan as outlined in the Town's NOI (**Appendix A**) is summarized in **Table 11-1**.

For consistency with the 6 MCMs and impaired water requirements, the BMPs are broken down into 7 categories:

1. Public Education and Outreach;
2. Public Participation and Involvement;
3. Illicit Discharge Detection and Elimination;
4. Construction Site Stormwater Runoff Control;
5. Stormwater Management in New Development and Redevelopment;
6. Good Housekeeping and Pollution Prevention; and
7. TMDL and Water Quality Limited Waterbodies Controls

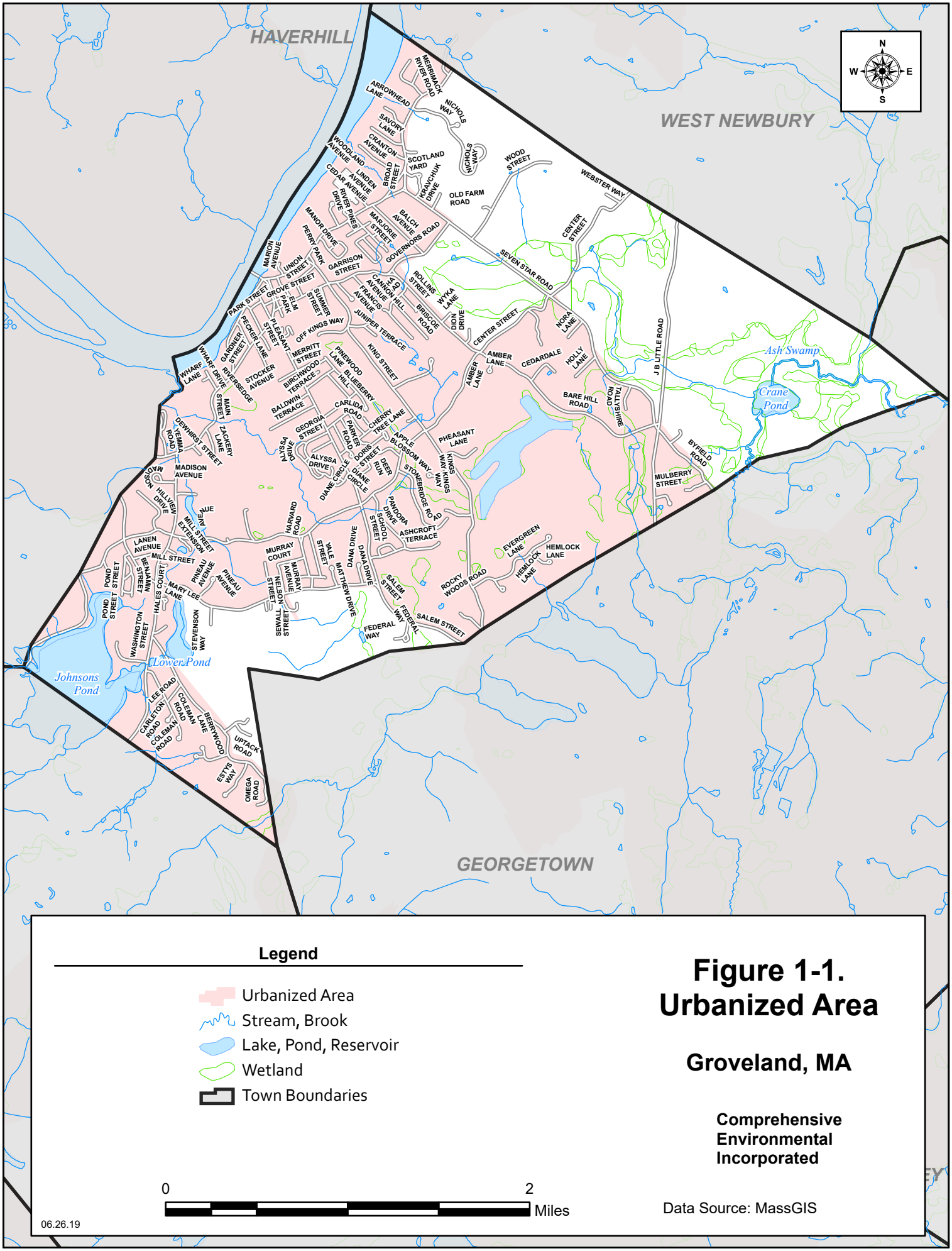
The BMP tables also outline the measurable goals for each BMP to gauge permit compliance, the responsible party(ies) for implementing each BMP, and an implementation schedule to be used throughout the permit period. In addition to the implementation activities outlined in this plan, the Town will also perform the following activities throughout the duration of the permit:

1. **Program Evaluation** – conduct annual evaluations of the Stormwater Management Program for compliance with permit conditions. The evaluation must include a determination of the appropriateness of the selected BMPs in efforts towards achieving the measurable goals outlined in **Table 11-1**.

2. **Record Keeping** – maintain records that pertain to the Stormwater Management Program for a period of at least 5 years. Records need to be made available to the public and the Town may charge a reasonable fee for copying. Records need not be submitted to EPA or MassDEP unless specifically requested.

3. **Reporting** – submit an annual report to EPA and MassDEP, including the information as noted in Section 10.

Refer to the following link for a copy of the 2016 MA MS4 Permit:
https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit



Legend

- Urbanized Area
- Stream, Brook
- Lake, Pond, Reservoir
- Wetland
- Town Boundaries

0 2 Miles

06.26.19

Figure 1-1. Urbanized Area

Groveland, MA

Comprehensive Environmental Incorporated

Data Source: MassGIS

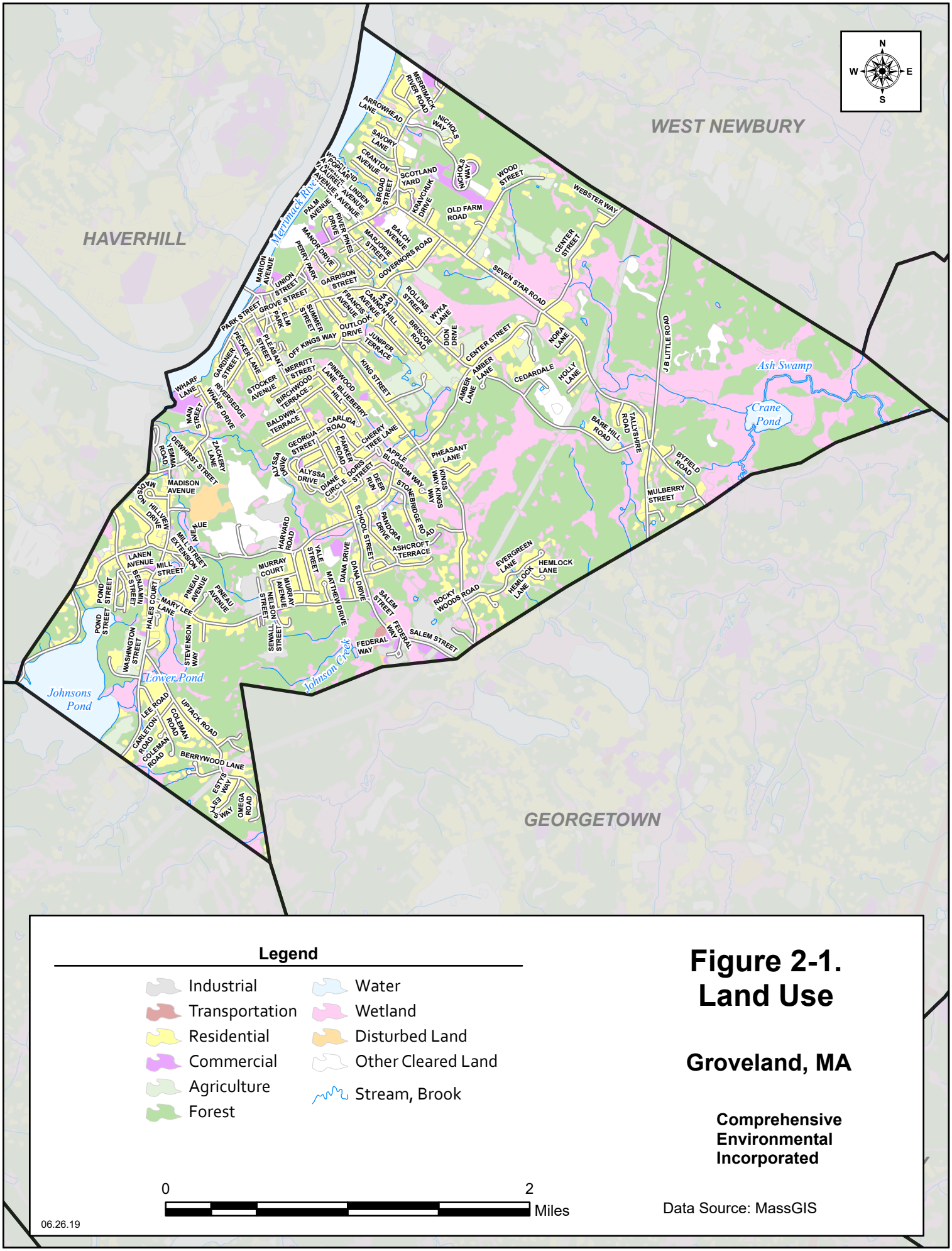
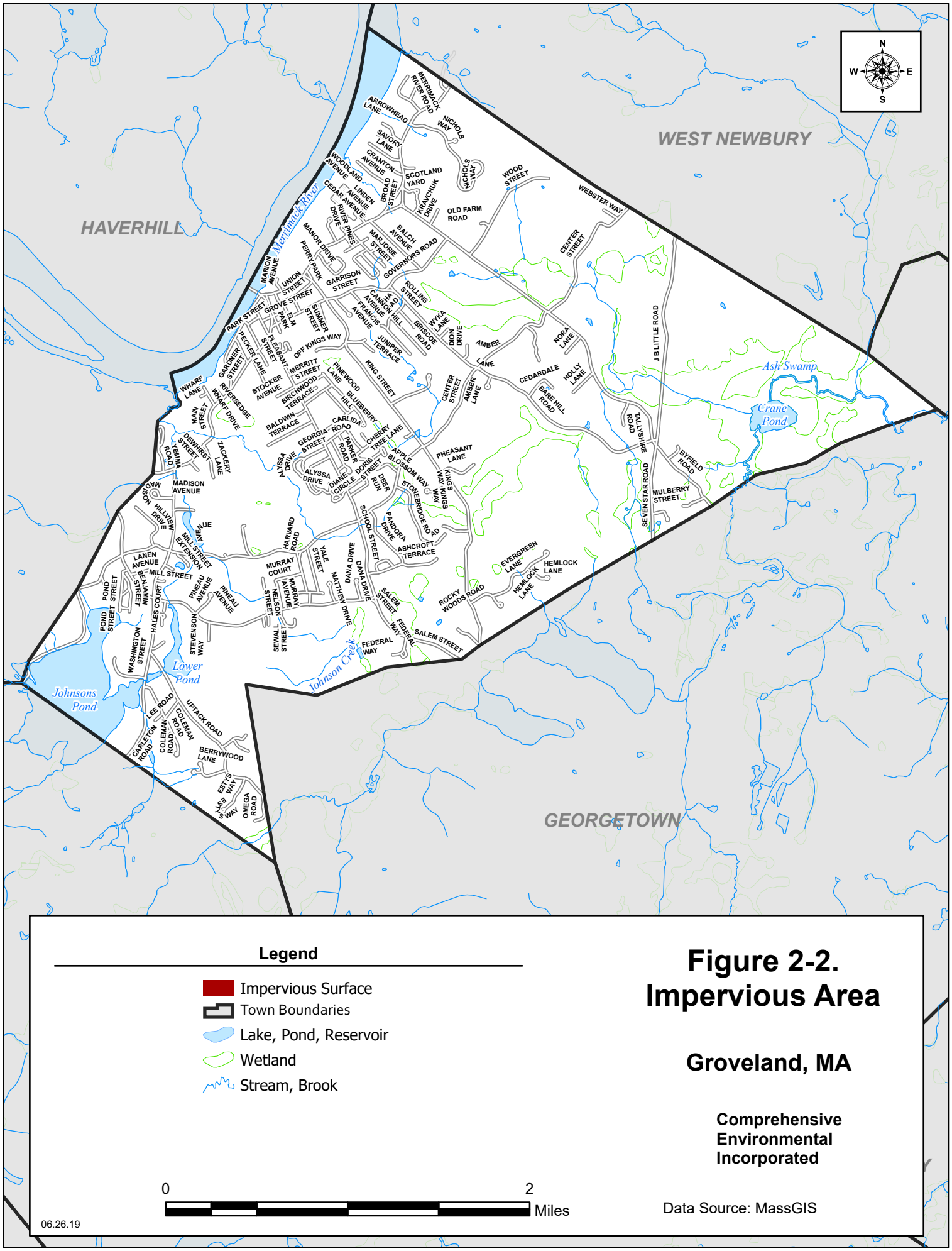


Figure 2-1. Land Use

Groveland, MA

Comprehensive Environmental Incorporated

Data Source: MassGIS



Legend

- Impervious Surface
- Town Boundaries
- Lake, Pond, Reservoir
- Wetland
- Stream, Brook

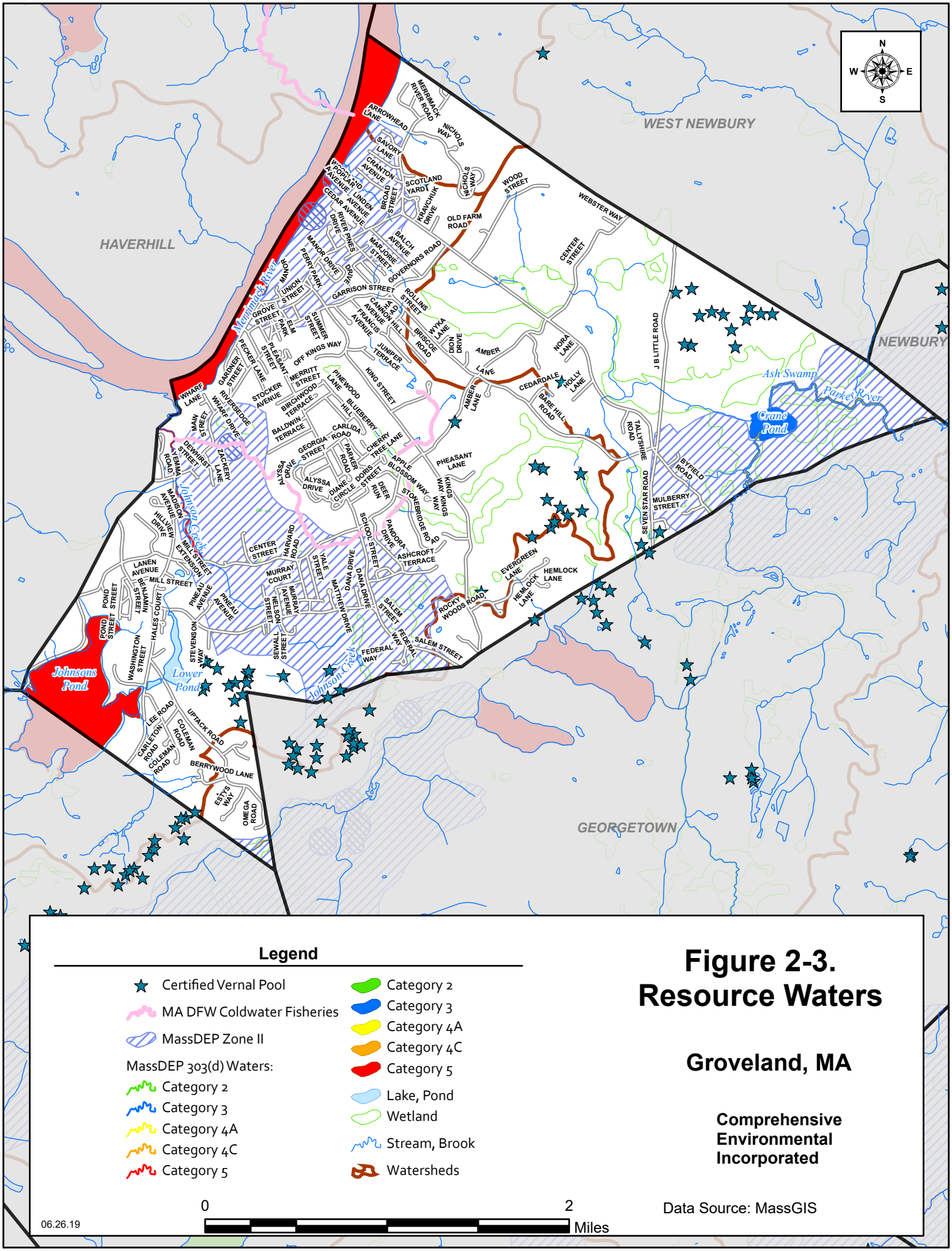
Figure 2-2. Impervious Area

Groveland, MA

Comprehensive Environmental Incorporated

Data Source: MassGIS

06.26.19



Legend

- Certified Vernal Pool
- MA DFW Coldwater Fisheries
- MassDEP Zone II

MassDEP 303(d) Waters:

- Category 2
- Category 3
- Category 4A
- Category 4C
- Category 5

- Category 2
- Category 3
- Category 4A
- Category 4C
- Category 5
- Lake, Pond
- Wetland
- Stream, Brook
- Watersheds

0 2 Miles

06.26.19

Figure 2-3. Resource Waters

Groveland, MA

Comprehensive Environmental Incorporated

Data Source: MassGIS

Table 11-1. Proposed BMP Plan - Implementation of Phase II Activities												
						Year / Schedule						
						1	2	3	4	5	6	
BMP ID	**BMP Description**	**Implementation**	**Responsible Dept./Person**	**Measurable Goal**	**Report Section**	**7/1/18-7/1/19**	**7/1/19-7/1/20**	**7/1/20-7/1/21**	**7/1/21-7/1/22**	**7/1/22-7/1/23**	**7/1/23-7/1/24**	
1. Public Education and Outreach												
1-1	**Residential Education Program**	1. Provide relevant stormwater information to different audiences via various social media platforms.	Information Technology	Follow statewide "Think Blue" campaign on social media platforms	3.4.1	*	*	*	*	*	*	
		2. Provide fact sheets on pet waste management with all dog registrations and renewals.	Town Clerk	Provide information with all applications and renewals		*	*	*	*	*	*	
		3. Provide comprehensive stormwater information on the Town's website, including effects of outdoor activities such as lawn care on water quality; benefits of appropriate on-site infiltration of stormwater; effects of automotive work and car washing on water quality; proper disposal of swimming pool water; proper management of pet waste; and maintenance of septic systems.	Information Technology, Highway Department	Continue to update and maintain the websites		*	*	*	*	*	*	
1-2	**Businesses, Institutions, and Commercial Education Program**	1. Provide comprehensive stormwater information on the Town's website, including effects of outdoor activities such as lawn care on water quality; benefits of appropriate on-site infiltration of stormwater; building maintenance and storage of materials; proper use and storage of salt or other de-icing and anti-icing materials; proper management of waste materials and dumpsters; proper management of parking lot surfaces; proper car care activities; and proper disposal of swimming pool water by entities such as motels, hotels, and health and country clubs.	Information Technology, Highway Department	Continue to update and maintain the websites	3.4.2	*	*	*	*	*	*	
		2. Provide relevant stormwater information to different audiences via various social media platforms.	Information Technology	Follow statewide "Think Blue" campaign on social media platforms		*	*	*	*	*	*	
1-3	**Developer and Construction Education Program**	1. Distribute fact sheets or brochures on erosion and sediment control with building permit applications.	Planning Board, Conservation Commission, Building Department	Continue to provide manual and updates with best current methods	3.4.3	*	*	*	*	*	*	
		2. Provide relevant stormwater information to different audiences via various social media platforms.	Information Technology	Follow statewide "Think Blue" campaign on social media platforms		*	*	*	*	*	*	
		3. Provide comprehensive stormwater information on the Town's website, including proper sediment and erosion control management practices; information about Low Impact Development (LID) principles and technologies; and information about EPA's construction general permit (CGP).	Information Technology, Highway Department	Continue to update and maintain the websites		*	*	*	*	*	*	
1-4	**Industrial Education Program**	1. Provide comprehensive stormwater information on the Town's website, including equipment inspection and maintenance; proper storage of industrial materials; proper management and disposal of wastes; proper management of dumpsters; minimization of use and proper storage of salt or other de-icing/anti-icing materials; benefits of appropriate on-site infiltration of stormwater runoff from areas with low exposure to industrial materials such as roofs or employee parking; proper maintenance of parking lot surfaces; and information about EPA's CGP.	Information Technology, Highway Department	Continue to update and maintain the websites	3.4.4	*	*	*	*	*	*	
		2. Provide relevant stormwater information to different audiences via social media.	Information Technology	Follow statewide "Think Blue" campaign on social media platforms		*	*	*	*	*	*	
2. Public Participation and Involvement												
2-1	**Make SWMP Publicly Available**	1. Post SWMP Plan on Town website, along with contact name, email address and/or phone number of a contact person at the Town to contact for information or submit comments.	Information Technology, Highway Department	Annual review of stormwater management plan and posting on website. Allow public to comment on the plan at least annually	4.4.1	*	*	*	*	*	*	
2-2	**Organic Yard Waste Collection**	1. Provide a drop-off location for the proper disposal of yard waste during the growing season.	Highway Department	Continue to allow organic yard-waste drop-off throughout the growing season.	4.4.2	*	*	*	*	*	*	

Table 11-1. Proposed BMP Plan - Implementation of Phase II Activities												
						Year / Schedule						
						1	2	3	4	5	6	
BMP ID	**BMP Description**	**Implementation**	**Responsible Dept./Person**	**Measurable Goal**	**Report Section**	**7/1/18-7/1/19**	**7/1/19-7/1/20**	**7/1/20-7/1/21**	**7/1/21-7/1/22**	**7/1/22-7/1/23**	**7/1/23-7/1/24**	
3. Illicit Discharge Detection and Elimination												
3-1	**Enact and Enforce IDDE Bylaw**	1. Establish a legal authority in order to create an IDDE program to satisfy the 2016 MS4 Permit	Highway Department, Board of Health	Regulatory mechanism in place within 1 year of the permit effective date.	5.4.1	*	*	*	*	*	*	
3-2	**Phase I Storm Sewer System Map**	1. Delineate catchment areas based on topography for each MS4 outfall and map in GIS.	Highway Department	Updated map within 2 years of effective date of permit	5.4.2	*						
		2. Update outfalls, conveyances receiving waters, interconnections, MS4-owned BMPs & initial catchment delineations.				*	*					
3-3	**Phase II Storm Sewer System Map**	1. Update outfall spatial location, pipes, manholes, catch basins, refined catchment delineations as new information becomes available.	Highway Department	Updated map within 10 years of effective date of permit	5.4.2	*	*	*	*	*	*	
3-4	**Complete SSO Inventory**	1. Annually complete an inventory of Sanitary Sewer Overflows that discharged to the MS4 during the previous five years, including information on location, discharge characteristics, and corrective actions.	Highway Department, Board of Health	Develop SSO inventory and complete within 1 year of effective date.	5.4.3	*	*	*	*	*	*	
3-5	**Written IDDE Program**	1. Prepare written IDDE Plan to include procedures on assessing and priority ranking outfalls and interconnections, dry and wet weather outfall sampling, catchment investigations, system vulnerability factor assessment, identification of an illicit discharge, illicit discharge removal, and ongoing screening requirements.	Highway Department	Complete within 1 year of the effective date of permit and update as required	5.4.4	*						
3-6	**Outfall / Interconnection Inventory and Ranking**	1. Develop an outfall and interconnection inventory that identifies each outfall and interconnection discharging from the MS4, records its location and condition and provides a framework for tracking inspections, screenings and other activities under the IDDE program.	Highway Department, Board of Health	Identification of outfalls and initial ranking by July 1, 2019	5.4.4	*						
		2. Classify/rank outfalls. Initial ranking by end of Year 1. Update ranking annually with new information.				*	*	*	*	*	*	
3-7	**Implement IDDE Program**	1. Inspect key catchment structures (manholes, catch basins) during dry weather conditions. Where flowing water is observed, collect samples for analysis.	Department of Public Works, Board of Health	Implement catchment investigations according to program and permit conditions (Problem Outfalls by July 1, 2025, all outfalls by July 1, 2028)	5.4.4		*	*	*	*	*	
		2. Inspect key catchment structures (manholes, catch basins) in all catchments during dry weather conditions. Where flowing water is observed, collect samples for analysis.					*	*	*	*	*	
3-8	**Dry Weather Screening**	1. Inspect drainage outfalls classified as High or Low priority during dry weather.	Highway Department, Board of Health	Complete in accordance with outfall screening procedure and permit conditions by July 1, 2021	5.4.5	*	*	*				
		2. Investigate potential illicit discharges, if any.				*	*	*	*	*	*	
		3. Enforce removal of illicit discharges, if any.				*	*	*	*	*	*	
3-9	**Wet Weather Screening**	1. Sample select outfalls with System Vulnerability Factors under wet weather conditions. Sampling can be done upon completion of any dry weather investigation, but must be completed before catchment investigation is marked as complete.	Highway Department	Complete in accordance with outfall screening procedure within 10 years of the effective permit date	5.4.5						*	
3-10	**Ongoing Screening**	1. Upon completion of catchment investigations, reprioritize outfalls for ongoing screening.	Highway Department	Conduct ongoing dry and wet weather outfall screening upon completion of the IDDE program	5.4.5						*	
		2. Continue performing dry and wet weather sampling according to the new prioritization at least once every 5 years.									*	
3-11	**Perform IDDE Training**	1. Provide annual training to employees involved in the IDDE program.	Highway Department	Train applicable employees annually	5.4.6	*	*	*	*	*	*	

Table 11-1. Proposed BMP Plan - Implementation of Phase II Activities												
						Year / Schedule						
						1	2	3	4	5	6	
BMP ID	**BMP Description**	**Implementation**	**Responsible Dept./Person**	**Measurable Goal**	**Report Section**	**7/1/18-7/1/19**	**7/1/19-7/1/20**	**7/1/20-7/1/21**	**7/1/21-7/1/22**	**7/1/22-7/1/23**	**7/1/23-7/1/24**	
4. Construction Site Stormwater Runoff Control												
4-1	**Develop and Enforce Construction Bylaw**	1. Enforce existing Stormwater Management bylaw and Stormwater Management and Land Disturbance Permit requirements.	Planning Board, Conservation Commission, Building Department	Complete bylaw updates within 1 year of the effective date of the permit	6.4.1	*						
4-2	**Develop Written Procedures for Site Plan Review**	1. Review and update existing requirements mandating site plan review and make changes as needed, such as incorporating additional information submitted by the public.	Planning Board, Conservation Commission, Building Department	Establish procedures for site plan review within 1 year of the effective date of the permit	6.4.2	*						
4-3	**Develop Written Procedures for Site Inspections and Enforcement**	1. Review and update existing requirements mandating site inspections, enforcement, and requirements for submittal of monthly inspection reports as needed	Planning Board, Conservation Commission, Building Department	Establish procedures for site inspections and enforcement within 1 year of the effective date of the permit	6.4.3	*						
4-4	**Establish a Sediment and Erosion Control Program**	1. Establish procedures for development of an Erosion and Sediment Control Plan for construction site operators performing land disturbance activities.	Planning Board, Conservation Commission, Building Department	Establish procedures for development of an erosion and sediment control program within 1 year of the effective date of the permit	6.4.4	*						
4-5	**Develop Procedures for Waste Control**	1. Establish requirements to control construction site wastes within 1 year of the effective date of the permit	Planning Board, Conservation Commission, Building Department	Establish requirements to control construction site wastes within 1 year of the effective date of the permit	6.4.4	*						

Table 11-1. Proposed BMP Plan - Implementation of Phase II Activities											
						Year / Schedule					
						1	2	3	4	5	6
BMP ID	**BMP Description**	**Implementation**	**Responsible Dept./Person**	**Measurable Goal**	**Report Section**	**7/1/18-7/1/19**	**7/1/19-7/1/20**	**7/1/20-7/1/21**	**7/1/21-7/1/22**	**7/1/22-7/1/23**	**7/1/23-7/1/24**
5. Stormwater Management in New Development and Redevelopment											
5-1	**Develop and Enforce Post-Construction Bylaw**	1. Review existing Stormwater Management and Land Disturbance bylaw and incorporate specific design requirements outlined in the final permit regarding new development and redevelopment tied to the Massachusetts Stormwater Handbook.	Planning Board, Conservation Commission, Building Department	Complete bylaw updates within 2 years of the effective date of the permit	7.4.1	*	*				
5-2	**Require Stormwater As-Built Plan Submittal**	1. Require submittal of as-built drawings for structural and non-structural stormwater controls.	Planning Board, Conservation Commission, Building Department, Highway Department	Require submittal of as-built plans for completed projects within 2 years of completion	7.4.2	*	*				
5-3	**Require Long Term Operation and Maintenance**	1. Establish procedures to require long term operation and maintenance of BMPs, such as addressing funding sources.	Planning Board, Conservation Commission, Building Department, Highway Department	Require submittal of operation and maintenance plans to ensure long term maintenance within 2 years of the effective date of the permit	7.4.3	*	*				
5-4	**Street Design and Parking Lot Guidelines**	1. Review existing by-laws, regulations and guidance pertaining to current street and parking lot design and all regulations for ability to incorporate LID into designs.	Planning Board, Conservation Commission, Zoning Board	Complete regulatory updates within 4 years of the effective date of the permit	7.4.4		*	*			
		2. Prepare a report assessing whether existing street and parking lot design regulations allow for incorporation of LID practices and recommendations for changes.							*		
5-5	**Allow Green Infrastructure**	1. Review existing by-laws, regulations and guidance to determine the feasibility of making green practices allowable.	Planning Board, Conservation Commission, Zoning Board, Building Department	Complete regulatory updates within 4 years of the effective date of the permit	7.4.4		*	*			
		2. Prepare a report assessing existing local regulations to determine the feasibility of allowing green roofs, infiltration practices, and water harvesting devices.							*		
5-6	**Target Properties to Reduce Impervious Area**	1. Identify 5 properties for potential retrofits to stormwater impacts.	Planning Board, Conservation Commission, Highway Department	Complete inventory within 4 years of the effective date of the permit and update annually on retrofitted properties	7.4.5				*		
		2. Track and report annually properties that have been modified or retrofitted with BMPs.							*	*	*

Table 11-1. Proposed BMP Plan - Implementation of Phase II Activities												
						Year / Schedule						
						1	2	3	4	5	6	
BMP ID	**BMP Description**	**Implementation**	**Responsible Dept./Person**	**Measurable Goal**	**Report Section**	**7/1/18-7/1/19**	**7/1/19-7/1/20**	**7/1/20-7/1/21**	**7/1/21-7/1/22**	**7/1/22-7/1/23**	**7/1/23-7/1/24**	
6. Good Housekeeping and Pollution Prevention												
6-1	**Inventory Open Spaces, Buildings and Facilities, and Vehicles and Equipment**	1. Inventory all permittee-owned parks and open spaces, building and facilities (including storm drains), and vehicles and equipment in the regulated area.	Highway Department, Building Inspector	Complete inventory of open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit	8.3.1		*					
6-2	**Establish Operation and Maintenance Procedures**	1. Evaluate practices at MS4 properties (parks and open spaces, building and facilities, vehicles and equipment) and develop written Facilities O&M Plan.	Highway Department	Create written O&M Plan for open spaces, buildings and facilities, and vehicles and equipment within 2 years of the effective date of the permit	8.3.1		*					
		2. Distribute written O&M/SOPs as part of employee training.					*					
		3. Update inventory annually					*	*	*	*	*	
		4. Ensure all vehicle maintenance and washing is performed indoors.				*	*	*	*	*	*	
6-3	**Review Infrastructure O&M Procedures**	1. Develop written O&M procedures or SOPs for the storm drain system, roadways and existing Town-owned BMPs (e.g., catch basin cleaning, street sweeping, winter road maintenance, stormwater BMPs).	Highway Department	Written SOPs.	8.3.2		*					
		2. Distribute written O&M/SOPs as part of employee training.					*					
6-4	**Catch Basin Cleaning**	1. Establish a cleaning schedule and maintain catch basins so that they remain less than 50% full of sediment.	Highway Department	Clean catch basins on established schedule and report number of catch basins cleaned and volume of material moved annually	8.3.2	As Needed						
		2. Properly manage storage of catch basin residuals.				*	*	*	*	*	*	
6-5	**Street Sweeping**	1. Sweep streets once a year in spring.	Highway Department	Sweep all streets and parking lots at least annually.	8.3.2	*	*	*	*	*	*	
		2. Properly manage storage of street sweeping residuals.										
6-6	**Develop Road Salt Optimization Program**	1. Establish and implement procedures for proper winter road maintenance, including use and storage of salt and sand, and procedures to minimize the use of road salt.	Highway Department	Implement salt use optimization during winter maintenance operations	8.3.2	*						
6-7	**Assess Regulated Facilities to Determine SWPPP Eligibility**	1. Evaluate the need for SWPPPs for municipal maintenance garages, public works yards, transfer stations, and other waste handling facilities where pollutants are exposed to stormwater.	Highway Department	Document whether a SWPPP is needed and where required.	8.3.3		*					
6-8	**Develop SWPPPs for Applicable Facilities**	1. Complete SWPPP or document No Exposure as applicable.	Highway Department	Prepare SWPPP if needed by July 1, 2020.	8.3.3		*					
6-9	**Establish BMP O&M Procedures**	1. Establish written inspection and maintenance procedures and frequencies for inspection of all structural stormwater BMPs.	Highway Department	Create written O&M Plan for stormwater BMPs within 2 years of the effective date of the permit	8.3.4		*					
6-10	**Inspect and Maintain Stormwater BMPs**	1. Annually inspect MS4-owned stormwater treatment BMPs. Document inspections and maintenance performed.	Highway Department	Inspect and maintain treatment structures annually	8.3.4		*	*	*	*	*	
7. TMDL and Impaired Waters Controls												
7-1	**Discharges to Water Quality Limited Waterbodies - Bacteria (Johnson Creek, Merrimack River)**	1. Enhanced BMPs - Public Education. Include management of pet waste and septic system maintenance with the Residential public education program.	Road Agent, Town Clerk, Board of Health	Distribute materials with Residential education program.	9.2.1	*	*	*	*	*	*	
		2. Enhanced BMPs - Illicit Discharge, Detection, and Elimination. Designate catchment draining to bacteria/pathogen impaired segments as "Problem Catchments" or "High" priority catchments in IDDE ranking.		Complete initial ranking within 1 year of the effective date of the permit		*						

Appendix A

Notice of Intent and Authorization to Discharge

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

Part I: General Conditions

General Information

Name of Municipality or Organization: Town of Groveland | State: MA

EPA NPDES Permit Number (if applicable): MA041195

Primary MS4 Program Manager Contact Information

Name: Denise Dembkoski | Title: Finance & Personnel Director

Street Address Line 1: Town of Groveland

Street Address Line 2: 183 Main Street

City: Groveland | State: MA | Zip Code: 01834

Email: ddembkoski@grovelandma.com | Phone Number: (978) 556-7204

Fax Number:

Other Information

Stormwater Management Program (SWMP) Location (web address or physical location, if already completed):

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)

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)*: No

Effective Date or Estimated Date of Adoption (MM/DD/YY): 06/30/19

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): 04/30/07

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): 04/30/07

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
MA84A-05 Merrimack River	3	☐	☐	☐	☐	☐	☐	☐	☐	☒	PCB in Fish Tissue
MA84A-15 Johnson Creek	5	☐	☐	☐	☐	☐	☐	☐	☒	☐	
MA84A-38 Argilla Brook	12	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Lower Pond	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed stream between Rollins St and King St	3	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed tributary to Crane Pond	1	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed wetland north of Salem St at Federal Way	2	☐	☐	☐	☐	☐	☐	☐	☐	☐	
Unnamed tributary to Pentucket Pond Outlet Reservoir	4	☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
		☐	☐	☐	☐	☐	☐	☐	☐	☐	
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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**
Web Page	Provide web information on septic system maintenance, illicit discharges, pet waste disposal, lawn care, pesticide and fertilizer use, grass clippings and leaf litter disposal, car washing, and use of environment-ally friendly products.	Residents	Information Technology, Highway Department	Continue to update and maintain the websites.	2018
Web Page	Provide web information on pesticide and fertilizer use, grass clippings and leaf litter disposal, building maintenance, salt usage, storage of materials and wastes, car washing, benefits of infiltration, and use of environmentally friendly products.	Businesses, Institutions, and Commercial Facilities	Information Technology, Highway Department	Continue to update and maintain the websites.	2018

Web Page	Provide web information on erosion and sediment control, Low Impact Development, and the NPDES Construction General Permit.	Developers (construction)	Information Technology, Highway Department	Continue to update and maintain the websites.	2018
Web Page	Provide web information on equipment maintenance and inspection, material storage, solid waste handling, salt usage, benefits of onsite infiltration, management of parking lot surfaces, and EPA's MSGP.	Industrial	Information Technology, Highway Department	Continue to update and maintain the websites.	2018
Brochures/Pamphlets	Distribute fact sheets or brochures on erosion and sediment control with permit applications	Developers (construction)	Planning Board, Conservation Commission, Building Department	Provide information with all applications	2018
Brochures/Pamphlets	Distribute fact sheets or brochures on pet waste pickup with dog licenses.	Residents	Town Clerk	Provide information with all applications and renewals.	2018
Social Media	Provide relevant stormwater information to different audiences via social media.	Residents, Businesses, Institutions, Commercial Facilities, Developers (construction), Industrial	Information Technology	Follow statewide "Think Blue" campaign on social media platforms.	2019

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 Imple-mentation
Public Review	SWMP Review	Information Technology, Highway Department	Allow annual review of stormwater management plan and posting of stormwater management plan on website	2018
Public Participation	SWMP Review	Information Technology, Highway Department	Allow public to comment on stormwater management plan annually	2018
Public Participation	Organic Yard Waste Collection Program	Highway Department	Provide a drop-off location for yard waste collection during the growing season	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	Highway Department, Board of Health	Complete within 1 year of effective date of permit	2018
Storm sewer system map	Create map and update during IDDE program completion	Highway Department	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	Highway Department	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	Highway Department, Board of Health	Complete 10 years after effective date of permit	2020
Employee training	Train employees on IDDE implementation	Highway Department, Board of Health	Train annually	2018
Conduct dry weather screening	Conduct in accordance with outfall screening procedure and permit conditions	Highway Department	Complete 3 years after effective date of permit	2019
Conduct wet weather screening	Conduct in accordance with outfall screening procedure	Highway Department	Complete 10 years after effective date of permit	2024
Ongoing screening	Conduct dry weather and wet weather screening (as necessary)	Highway Department	Complete ongoing outfall screening upon completion of IDDE program	2028
IDDE Ordinance/Bylaw	Develop IDDE bylaw	Highway Department, Board of Health	Develop and enforce IDDE bylaw	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 Imple-mentation**
Site inspection and enforcement of Erosion and Sediment Control (ESC) measures	Complete written procedures of site inspections and enforcement procedures	Planning Board, Conservation Commission, Building Department	Complete within 1 year of the effective date of permit	2018
Site plan review	Complete written procedures of site plan review and begin implementation	Planning Board, Conservation Commission, Building Department	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	Planning Board, Conservation Commission, Building Department	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	Planning Board, Conservation Commission, Building Department	Complete within 1 year of the effective date of permit	2018
Construction Ordinance/ Bylaw	Enforce existing Stormwater Management bylaw and Stormwater Management and Land Disturbance Permit requirements	Planning Board, Conservation Commission, Building Department	Continue to enforce bylaw and permitting requirements for all applicable developments	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	Planning Board, Conservation Commission, Building Department, Highway De	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	Planning Board, Conservation Commission, Highway Department	Complete 4 years after effective date of permit and report annually on retrofitted properties	2020
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	Planning Board, Conservation Commission, Zoning Board, Building Departmer	Complete 4 years after effective date of permit and implement recommendations of report	2020
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.	Planning Board, Conservation Commission, Zoning Board	Complete 4 years after effective date of permit and implement recommendations of report	2020

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	Planning Board, Conservation Commission, Building Department	Complete 2 years after effective date of permit	2019

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	Highway Department	Complete and implement 2 years after effective date of permit	2019
Inventory all permittee-owned parks and open spaces, buildings and facilities, and vehicles and equipment	Create inventory	Highway Department, Building Inspector	Complete 2 years after effective date of permit and implement annually	2019
Infrastructure O&M	Establish and implement program for repair and rehabilitation of MS4 infrastructure	Highway Department	Complete 2 years after effective date of permit	2019
Stormwater Pollution Prevention Plan (SWPPP)	Create SWPPPs for maintenance garages, transfer stations, and other waste-handling facilities	Highway Department	Complete and implement 2 years after effective date of permit	2019
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	Highway Department	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	Highway Department	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	Highway Department	Implement salt use optimization during deicing season	2018

Inspections and maintenance of stormwater treatment structures	Establish and implement inspection and maintenance procedures and frequencies	Highway Department	Inspect and maintain treatment structures at least annually	2018
Road salt storage	Ensure that all salt materials are stored and loaded under cover in the salt shed	Highway Department	Store and load all salt inside the salt shed	2018

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)

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)
Enteroccus	MA84A-05 Merrimack River	Adhere to requirements in part III of Appendix H	Road Agent, Town Clerk, Board of Health
E. Coli	MA84A-15 Johnson Creek	Adhere to requirements in part III of Appendix H	Road Agent, Town Clerk, Board of Health

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.

Click to add text

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: William G O'Neil

Title: Chair, Board of Selectmen

Signature: 

Date: 9/10/2018

[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

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: May 24, 2017
Consultation Code: 05E1NE00-2017-SLI-1637
Event Code: 05E1NE00-2017-E-03311
Project Name: Groveland Small MS4 Stormwater Permit

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: 05E1NE00-2017-SLI-1637

Event Code: 05E1NE00-2017-E-03311

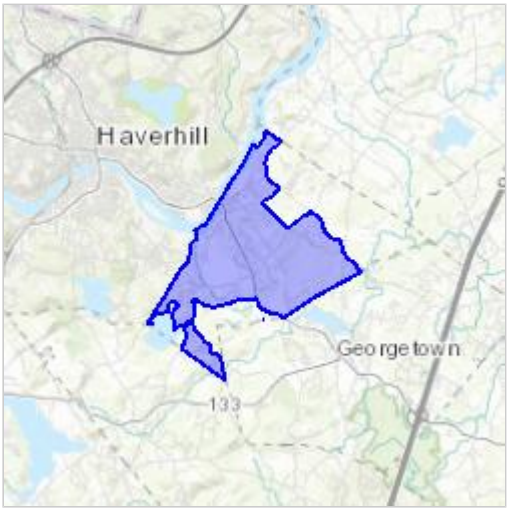
Project Name: Groveland Small MS4 Stormwater Permit

Project Type: Water Withdrawal / Depletion

Project Description: Determination of impact of stormwater discharges and discharge related activities to threatened and endangered species per Appendix C of the MA MS4 General Permit. Stormwater discharge occurs from pre-existing outfalls within the regulated zone, as shown on the map.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/42.756866999999886N71.01973079702907W



Counties: Essex, MA

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on your 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. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area. Please contact the designated FWS office if you have questions.

Mammals

NAME	STATUS
Northern Long-eared Bat *(Myotis septentrionalis)*	Threatened

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9045

Critical habitats

There are no critical habitats within your project area.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 1
5 POST OFFICE SQUARE, SUITE 100
BOSTON, MA 02109-3912

VIA EMAIL

June 4, 2019

William G. O'Neil
Chair, Board of Selectmen

And;

Denise Dembkoski
Finance & Personnel Director
Town of Groveland
183 Main Street
Groveland, MA. 01834
ddembkoski@grovelandma.com

Re: National Pollutant Discharge Elimination System Permit ID #: MAR041195, Town of Groveland

Dear Denise Dembkoski:

The 2016 NPDES General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems in Massachusetts (MS4 General Permit) is a jointly issued EPA-MassDEP permit. Your Notice of Intent (NOI) for coverage under this MS4 General Permit has been reviewed by EPA and appears to be complete. You are hereby granted authorization by EPA and MassDEP to discharge stormwater from your MS4 in accordance with the applicable terms and conditions of the MS4 General Permit, including all relevant and applicable Appendices. This authorization to discharge expires at midnight on **June 30, 2022.**

For those permittees that certified Endangered Species Act eligibility under Criterion C in their NOI, this authorization letter also serves as EPA's concurrence with your determination that your discharges will have no effect on the listed species present in your action area, based on the information provided in your NOI.

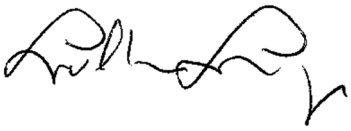
As a reminder, your first annual report is due by **September 30, 2019** for the reporting period from May 1, 2018 through June 30, 2019.

Information about the permit and available resources can be found on our website: https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit. Should you have any questions regarding this permit please contact Newton Tedder at tedder.newton@epa.gov or (617) 918-1038.

Sincerely,

Thelma Murphy, Chief
Stormwater and Construction Permits Section
Office of Ecosystem Protection
United States Environmental Protection Agency, Region 1

and;



Lealdon Langley, Director
Wetlands and Wastewater Program
Bureau of Water Resources
Massachusetts Department of Environmental Protection

Appendix B

Impaired Waterbodies

Waterbody Name	Segment ID and Category		Impairment(s)	Approved TMDL[3]
Johnson Creek	MA84A-15	5	Escherichia coli	
Johnsons Pond	MA84027	5	Mercury in Fish Tissue	
			Oxygen, Dissolved	
Merrimack River	MA84A-05	5	Enterococcus	
			PCB in Fish Tissue	

Category 5 Waters – impaired waters that require a TMDL.

[3]"Approved TMDLs" are those that have been approved by EPA as of the date of issuance of the 2016 Permit.

Appendix C

Regulatory Review and Legal Authority

MS4 REGULATORY REVIEW – TOWN OF GROVELAND

TO: Town of Groveland
FROM: Nick Cristofori P.E., CEI
DATE: April 22, 2019
SUBJECT: MS4 Regulatory Review

Comprehensive Environmental, Inc. has performed a preliminary review of Groveland's existing bylaws and applicable regulations to determine compliance with Section 2.3.4.a of Minimum Measure 3 – Illicit Discharge Detection and Elimination (IDDE) Program, and Section 2.3.5 of Minimum Measure 4 – Construction Site Stormwater Runoff Control of the 2016 Massachusetts MS4 General Permit. The bylaws and regulations that were reviewed include the following:

- Stormwater Management and Land Disturbance Bylaw, General Legislation, adopted 4/30/2007

The MS4 Permit requires regulated communities to develop or modify, as appropriate, its regulatory mechanism for post construction stormwater management by the end of Year 2 of the permit term. The revisions will include the incorporation of specific design criteria as outlined in the permit. Given the minor nature of the comments below, CEI recommends that all updates be performed at the same time during Year 2, with the exception of developing and adopting an IDDE bylaw, which should be done as soon as practical. Written procedures outside of the regulations, such as inspection checklists, can be developed in the interim to satisfy the MS4 requirements.

The following table summarizes the requirements of the permit, existing regulatory mechanisms in the Town that address the requirements and to what extent, and recommendations for regulatory updates or supplemental information for full compliance.

Minimum Measure 3 – Illicit Discharge, Detection, and Elimination		
Required Elements	**Current Municipal Regulatory Requirements**	**Recommended Changes**
Section 2.3.4.a. Have adequate legal authority to: • Prohibit illicit discharges. • Investigate suspected illicit discharges. • Eliminate illicit discharges, including those from properties not owned or controlled by the Town. • Implement appropriate enforcement procedure and actions.	No ordinance currently exists.	CEI recommends developing a new bylaw to give the town the legal authority to prohibit, investigate, and eliminate illicit discharges to the MS4 system, and implement appropriate enforcement actions.

MS4 REGULATORY REVIEW – TOWN OF GROVELAND

Minimum Measure 4 – Construction Site Stormwater Runoff Control		
Required Elements	**Current Municipal Regulatory Requirements**	**Recommended Changes**
Section 2.3.5.a. Implement program that reduces stormwater pollutants at construction sites >1 acre, or < 1 acre if part of a development that will disturb >1 acre.	Stormwater Management and Land Disturbance Bylaw, Section 4, "Applicability" establishes a program regulates construction sites that disturb >20,000 sq. ft. of land (~0.46), or less if part of a development that will disturb >20,000 sq. ft. An exception is made for discharges regulated under the Wetlands Protection Act that demonstrate compliance with the Massachusetts Storm Water Management Policy.	Review the exemptions and ensure that sites exempt from the bylaw are not required to be regulated under the changes to the permit.
Section 2.3.5.c.i. and iv. Regulatory mechanism that requires the use of sediment and erosion control practices at construction sites. Ordinance must include requirement for construction site operators to control other wastes on construction sites, such as demolition debris, litter, concrete truck wash-out, and chemicals.	Stormwater Management and Land Disturbance Bylaw, Section 8, "Storm Water Management & Erosion and Sediment Control Plan" requires that erosion and sediment controls must be implemented to prevent impacts during disturbance and construction activities. This section also requires the control of on-site construction and waste materials, which are defined as: 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.	No changes are recommended.

MS4 REGULATORY REVIEW – TOWN OF GROVELAND

Minimum Measure 4 (continued) – Construction Site Stormwater Runoff Control		
Required Elements	**Required Elements**	**Required Elements**
Section 2.3.5.c.ii. and v. Written procedures for site inspections and enforcement: • Inspection procedures. • Inspections to occur during and after BMP construction.	Stormwater Management and Land Disturbance Bylaw, Section 10, "Inspections" requires inspection certifying that the site is in compliance with the land disturbance permit. Inspections are required during and after BMP construction.	The current Town bylaws and regulations are mostly in compliance with the permit requirements. CEI recommends defining qualifications for the both inspectors. It is also recommended that the Town develop a standardized inspection form to be included in the Stormwater Bylaw. Additionally, procedures should be added to these regulations for tracking the number of site reviews, inspections, and enforcement actions.
• Who's responsible for inspecting.	This section also designates the applicant's technical representative as responsible for routine inspections, and the Planning Board or its agent for inspections based on site progress.	
• Inspector qualifications.	No qualifications are noted either the applicant's technical representative or the Planning Board's agent.	
• Statement that sanctions may be imposed. • Who has authority to implement enforcement.	Stormwater Management and Land Disturbance Bylaw, Section 12, "Enforcement" outlines the sanctions that may be imposed in the course of enforcing the bylaw, and gives the Planning Board the authority to enforce the bylaw.	
• Using standard inspection form (if appropriate). • Procedures for tracking number of site reviews, inspections, and enforcement actions.	No standard inspection form was publicly available for review. There were no listed procedures for tracking the number of site reviews, inspections, and enforcement actions.	

MS4 REGULATORY REVIEW – TOWN OF GROVELAND

Minimum Measure 4 (continued) – Construction Site Stormwater Runoff Control		
Required Elements	**Current Municipal Regulatory Requirements**	**Recommended Changes**
Section 2.3.5.c.iii. Requirements for construction site runoff control programs to include BMPs. Program may reference state or Town BMP design standards.	Stormwater Management and Land Disturbance Bylaw, Section 8, "Storm Water Management & Erosion and Sediment Control Plan" requires BMP use and compliance with the Massachusetts Stormwater Management Policy.	No changes are recommended.
Section 2.3.5.c.v. Written procedures for site plan review: • Pre-construction review of the site design. • Procedures for the receipt and consideration of information submitted by the public. • Planned construction site operations. • Planned BMPs during construction. • Planned BMPs to manage stormwater after development. • Consideration of water quality impacts. • Evaluation of Low Impact Development (LID) and Green Infrastructure (GI) opportunities.	Stormwater Management and Land Disturbance Bylaw, Section 8, "Storm Water Management & Erosion and Sediment Control Plan" lays out the procedures for the site plan review, including a pre-construction review of the site design with a public hearing and notification of abutters. The site plan review includes a review of: • Planned construction site operations and phases. • Planned BMPs during construction. • Planned BMPs to manage stormwater after development. • Consideration of water quality impacts. As a design requirement, LID/GI is encouraged, and the applicant must submit material to support that the development meets this requirement.	No changes are recommended.

TOWN OF GROVELAND

GENERAL BYLAW

ARTICLE 14

STORMWATER MANAGEMENT AND LAND DISTURBANCE BYLAW

14.1 PURPOSE

14.1.1 Eroded soil and storm water runoff entering water resources are considered non-point sources of pollution that are responsible for the degradation of water quality and hydrology in lakes, ponds, streams, rivers, wetlands and groundwater. The United States Environmental Protection Agency (EPA) estimates that polluted storm water runoff is the leading cause of impairment to the nearly 40% of impaired waterbodies in the United States. (Source: 1998 EPA 303(d) list of impairment by category)

The impacts of construction activities and post development stormwater runoff quantity and quality can adversely affect public health, land, surface and groundwater resources, drinking water supplies, recreation, and aquatic life and habitat.

The purpose of this section is to reduce the degradation of public health, land, and the environment due to construction activities and land development from:

1. Soil erosion and sedimentation
2. Storm water runoff

The section regulates the design, construction, and maintenance of any development or other activity which disturbs soil or results in an increased rate of stormwater runoff on land in the Town of Groveland.

14.2 AUTHORITY

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

14.3 DEFINITIONS

ABUTTER: Property owner of any property having a common boundary line with the Applicant's property, or any owner of any property located adjacent to the Applicant's property on a public way or stream, or any property owner located within a distance of three hundred feet (300') of the property.

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 Town of Groveland Planning Board, hereafter the Board, its employees or agents designated to enforce this by-law.

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

THE BOARD: Town of Groveland Planning Board.

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.

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.

CONVEYANCE: Any structure or device, including pipes, drains, culverts, curb breaks, paved swales, or man-made swales of all types designed or utilized to move or direct stormwater runoff or existing water flow.

CLEARING: Any activity that removes the vegetative surface cover.

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

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) and a Certified Professional in Erosion and Sedimentation Control (CPESC), which includes best management practices, or equivalent measures designed to control surface runoff, erosion and sedimentation during pre-construction 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).

GRADING: Changing the level or shape of the ground surface.

GROUNDWATER: All water beneath any land surface including water in the soil and bedrock beneath water bodies.

GRUBBING: The act of clearing land by digging up roots and stumps.

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 roof tops.

INFILTRATION: The act of conveying surface water into the ground to permit groundwater recharge and the reduction of stormwater runoff from a project site.

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: (G.L. 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 G.L. c. 131 §. 40 and Massachusetts Clean Waters Act G.L. c. 21, §. 23-56. 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 Groveland.

NEW DEVELOPMENT: Any construction or land disturbance of a parcel of land that is currently in a natural vegetated state and does not contain alteration by man-made activities.

NON-POINT SOURCE POLLUTION: Pollution from many diffuse sources caused by rainfall or snowmelt moving over and through the ground. As the runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into water resource areas.

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 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) 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.

PHASING: Clearing a parcel of land in distinct sections, with the stabilization of each section before the clearing of the next.

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.

POST-DEVELOPMENT: The conditions that reasonably may be expected or anticipated to exist after completion of the land development activity on a specific site or tract of land.

PRE-DEVELOPMENT: The conditions that exist at the time that plans for the land development of a tract of land are submitted to the Conservation Commission or Planning Board.

PRE-CONSTRUCTION: 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.

RECHARGE: The replenishment of underground water reserves.

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

RESOURCE AREA: Any area protected under including, without limitation: the Massachusetts Wetlands Protection Act, Massachusetts Rivers Act, or Town of Groveland Wetland Protection Bylaw and Regulations.

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.

SITE: Any lot or parcel of land or area of property where land-disturbing activities are, were, or will be performed.

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.

STORMWATER AUTHORITY: Town of Groveland Planning Board or its authorized agents are responsible for coordinating the review, approval and permit process as defined by this Bylaw.

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

STORMWATER: Storm water runoff, snow melt runoff, and surface water runoff and drainage.

STORMWATER MANAGEMENT PLAN: A plan required as part of the application for a Stormwater Management and Land Disturbance Bylaw Permit.

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

TSS: Total Suspended Solids.

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

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

WETLAND RESOURCE AREA: Areas specified in the Massachusetts Wetlands Protection Act G.L. c. 131, § 40 and Groveland Wetland Protection Bylaw and Regulations.

WETLANDS: Tidal and non-tidal areas characterized by saturated or nearly saturated soils most of the year that are located between terrestrial (land-based) and aquatic (water-based) environments, as defined in the Massachusetts Wetlands Protection Act G.L. c. 131, § 40, including freshwater marshes around ponds and channels (rivers and streams), brackish and salt marshes; common names include marshes, swamps and bogs.

14. 4. APPLICABILITY

14.4.1 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 20,000 square feet of land or will disturb less than 20,000 square feet of land but is part of a larger common plan of development or sale that will ultimately disturb equal to or greater than 20,000 square feet of land draining to the Town of Groveland without a Stormwater Management and Land Disturbance Permit from the Board.

14.4.2 In addition, as authorized in the Phase II Small MS4 General Permit for Massachusetts, storm water 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 and contain an approved Stormwater Pollution Prevention Plan may be exempt from compliance with the review process of this bylaw, as determined by the Planning Board upon the submittal of the following:

14.4.2.1 Two copies of a completed Application Form along with copies of the Conservation Commission's Order of Conditions. The Planning Board shall issue a Stormwater Management and Land Disturbance Permit at its next regularly scheduled meeting after receipt of said materials. The filing fee shall be waived.

14. 5. EXEMPTIONS

14.5.1 Normal maintenance and improvement of land in agricultural, aquacultural, forestry, or nursery operations as permitted as a main or accessory use.

14.5.2 Any emergency activity which is immediately necessary for the protection of public health, property or natural resources.

14.5.3 Emergency repairs to any stormwater structure

14.5.4 Maintenance of existing landscaping, gardens or lawn areas.

14.5.5 Construction of patios, walkways, driveways, fences, swimming pools and the replacement of wells or septic systems on lots having an existing dwelling.

14.5.6 Construction or emergency repair to any utilities other than drainage, which would not alter the terrain, ground cover or drainage patterns.

14. 6. ADMINISTRATION

14.6.1 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 agent.

14.6.2 The Board may waive strict compliance with any requirement of this by-law or the rules and regulations promulgated hereunder, where:

1. such action is allowed by federal, state and local statutes and/or regulations

2. is in the public interest, and

3. is not inconsistent with the purpose and intent of this by-law.

14.6.3 Rules and Regulations. The Board may adopt, and periodically amend rules and regulations to effectuate the purposes of this by-law. Failure by the Board to promulgate such rules and regulations shall not have the effect of suspending or invalidating this by-law.

14.7. PERMITS and PROCEDURE

14.7.1 If a project requires a Stormwater Management and Land Disturbance Permit, the applicant shall file eight (8) copies of a completed Stormwater Management and Land Disturbance Permit Application Package to the Planning Board. Review of the complete application may be conducted concurrently with other applications to the Board. The application shall include the following:

14.7.1.1. Completed Application Form with original signatures.

14.7.1.2 A list of abutters, certified by the Assessors Office.

14.7.1.3 An Stormwater Management & Erosion and Sediment Control Plan as specified in Section 14.8 of this bylaw.

14.7.1.4 A Stormwater Operation & Maintenance Plan (O&M) as specified in Section 14.8 of this bylaw.

14.7.1.5 Payment of the application and review fees as specified in Section 14.7 of this bylaw.

14.7.2 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.

14.7.3 The Board shall notify the Town Clerk of receipt of the application, and shall give one copy of the application package to the Highway Department, Water Department, the Conservation Commission and the Board of Health.

14.7.4 Public Hearing.

14.7.4.1 The Board shall hold a public hearing in conformance with the provisions of G.L. c.40A, Section 9.

14.7.4.2 The public hearing shall be held within 65 days after the filing of the application.

14.7.4.3 Notice shall be given by publication and posting and by first class mailings to parties of interest as defined in G.L. c. 40A, Section 11.

14.7.5 The applicant shall submit all additional information requested by the Board to issue a decision on the application.

14.7.6 The Board may:

14.7.6.1 Approve the Stormwater Management and 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 by-law.

14.7.6.2 Approve the Stormwater Management and 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 by-law.

14.7.6.3 Disapprove the Stormwater Management and 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 by-law.

14.7.6.4 The decision of the Board shall be filed with the Board and the Town Clerk within 90 days following the close of the public hearing.

14.7.6.5 Failure of the Board to act within 90 days of the close of the public hearing shall be deemed a grant of the permit applied for.

14.7.7 Fees. Each application must be accompanied by the appropriate application fee as established by the Board. Applicants shall pay review fees as discussed and determined by the Board sufficient to cover any expenses connected with the public hearing and review of the Stormwater Management and 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. The Board may require an additional fee for review of any change in or alteration from an approved permit.

The review fee collected under this bylaw shall be deposited in a pass book account held by the Town of Groveland.

Subject to applicable law, any unused portion of any review fees collected shall be returned by the Planning Board to the applicant within forty-five calendar days of a written request by the applicant, unless the Planning Board decides in a public meeting that other action is necessary.

14.7.7.1 A non-refundable application fee of $100 plus $.0030 times the total square footage of the area to be altered by the project shall be due and payable to the Town of Groveland at the time an application is filed.

14.7.8 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 Stormwater Management and 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 Section 14.8.2. and accepted construction practices, the Board may require that an amended Stormwater Management and Land Disturbance Permit application be filed and a public hearing held. If any change or alteration from the Stormwater Management and 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.

14.8. STORMWATER MANAGEMENT & EROSION AND SEDIMENT CONTROL PLAN

14.8.1 The Stormwater Management & 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, proposed erosion and sedimentation controls and proposed stormwater management

controls. The applicant shall submit such material as is necessary to show that the proposed development will comply with the design requirements listed in Section 14.8.2 below.

14.8.2 The design requirements of the Stormwater Management & Erosion and Sediment Control Plan are:

14.8.2.1 Minimize total area of disturbance.

14.8.2.2 Sequence activities to minimize simultaneous areas of disturbance.

14.8.2.3 Minimize peak rate of runoff in accordance with the Massachusetts Department of Environmental Protection's Stormwater Management Policy dated March 1997 as amended.

14.8.2.4 Minimize soil erosion and control sedimentation during construction, provided that prevention of erosion is preferred over sedimentation control.

14.8.2.5 Encourage the use of nonstructural stormwater management and low-impact development practices, such as reducing impervious cover, preserving greenspace, using bio-retention areas, rain gardens, and vegetated filter strips.

14.8.2.6 Divert uncontaminated water around disturbed areas.

14.8.2.7 Maximize groundwater recharge.

14.8.2.8 Install and maintain all Erosion and Sediment Control measures in accordance with the manufacturers specifications and good engineering practices.

14.8.2.9 Prevent off-site transport of sediment.

14.8.2.10 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).

14.8.2.11 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.

14.8.2.12 Prevent significant alteration of habitats mapped by the Massachusetts Natural Heritage & 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.

14.8.2.13 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.

14.8.2.14 Properly manage on-site construction and waste materials.

14.8.2.15 Prevent off-site vehicle tracking of sediments.

14.8.3 Stormwater Management & Erosion and Sedimentation Control Plan Content. The Plan shall contain the following information:

14.8.3.1 Names, addresses, and telephone numbers of the owner, applicant, and person(s) or firm(s) preparing the plan.

14.8.3.2 Title, date, north arrow, names of abutters, scale, legend, and locus map.

14.8.3.3 The existing zoning, and land use at the site.

14.8.3.4 The proposed land use.

14.8.3.5 Watercourses and water bodies, wetland resource areas and all floodplain information, including the 100-year flood elevation based upon the most recent Flood Insurance Rate Map, or as calculated by a professional engineer for areas not assessed on these maps.

14.8.3.6 Existing and proposed vegetation including tree lines, canopy layer, shrub layer, and ground cover.

14.8.3.7 Surveyed property lines showing distances and monument locations, all existing and proposed easements, rights-of-way, and other encumbrances, the size of the entire parcel, and the delineation and number of square feet of the land area to be disturbed.

14.8.3.8 Habitats mapped by the Massachusetts Natural Heritage & 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 within five hundred (500) feet of any construction activity.

14.8.3.9 Lines of existing abutting streets showing drainage and driveway locations, curb cuts and utilities.

14.8.3.10 Topographical features including existing and proposed contours at intervals no greater than two (2) feet with spot elevations provided when needed.

14.8.3.11 Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable.

14.8.3.12 Existing soils, volume and nature of imported soil materials.

14.8.3.13 Location and details of erosion and sediment control measures with a narrative of the construction sequence/phasing of the project, including both operation and maintenance for structural and non-structural measures, interim grading, and material stockpiling areas.

14.8.3.14 Estimated seasonal high groundwater elevation in areas to be used for stormwater retention, detention, or infiltration.

14.8.3.15 A drainage area map showing pre and post construction watershed boundaries, drainage area and stormwater flow paths.

14.8.3.16 Pre and post development stormwater runoff calculations in accordance with the Department of Environmental Protection's Stormwater Management Policy.

14.8.3.17 A description and drawings of all components of the proposed drainage system including:

a. locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization.

b. all measures for the detention, retention or infiltration of water.

14.8.3.18 All measures for the protection of water quality.

14.8.3.19 The structural details for all components of the proposed drainage systems and stormwater management facilities.

14.8.3.20 Notes on drawings specifying materials to be used, construction specifications, and typicals.

14.8.3.21 Path and mechanism to divert uncontaminated water around disturbed areas, to the maximum extent practicable.

14.8.3.22 Location and description of industrial discharges, including stormwater discharges from dedicated asphalt plants and dedicated concrete plants, which are covered by this permit.

14.8.3.23 Location and description of and implementation schedule for temporary and permanent seeding, vegetative controls, and other stabilization measures.

14.8.3.24 A description of construction and waste materials expected to be stored on-site. The Plan shall include a description of controls to reduce pollutants from these materials, including storage practices to minimize exposure of the materials to stormwater, and spill prevention and response.

14.8.3.25 A description of provisions for phasing the project where one acre of area or greater is to be altered or disturbed.

14.8.3.26 Plans must be stamped and certified by a qualified Professional Engineer registered in Massachusetts and a Certified Professional in Erosion and Sedimentation Control (CPESC).

14.8.3.27 Timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization.

14.8.3.28 A maintenance schedule for the period of construction.

14.8.3.29 Any other information requested by the Board.

14.8.3.30 An Operation and Maintenance plan (O&M Plan) is required at the time of application for all projects. 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 and shall be an ongoing requirement. The maintenance plan shall contain the following:

14.8.3.30.1 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.

14.8.3.30.2 The O&M Plan shall be prepared in conformance with the Department of Environmental Protection's Stormwater Management Policy.

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

14.8.3.30.4 The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of this by-law 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

14.9. PERFORMANCE GUARANTEE

14.9.1 As a condition of a Stormwater Management and Land Disturbance Permit approval, the Planning Board may require that a performance bond, secured by deposit of money or negotiable securities in the form selected by the Planning Board, be posted with the Town to guarantee that the work will be completed in accordance with the permit. The Board may also require that an amount be included for land restoration not having to do with the construction of improvements. The amount of security shall be determined by an estimate from the applicant's engineer which may be confirmed or increased by the Board. 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 14.11 and issued a certificate of completion.

14.9.2 The town may use the secured funds for their stated purpose in the event that the applicant does not complete all improvements in a manner satisfactory to the Board within two years from the date of approval, or the final date of the last extension of such approval, if any.

14.10. INSPECTIONS

14.10.1 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 and its designated agent, to review the permitted plans and their implementation.

14.10.2 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 or its designated agent at least two (2) working days before each of the following events:

14.10.2.1 Erosion and sediment control measures are in place and stabilized, and site clearing limits are clearly marked in the field.

14.10.2.2 Site Clearing has been substantially completed

14.10.2.3 Rough Grading has been substantially completed

14.10.2.4 Final Grading has been substantially completed

14.10.2.5 Close of the Construction Season; stabilization of the site.

14.10.2.6 Final Landscaping (permanent stabilization) and project final completion.

14.10.3 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 following storm events greater than 0.5 inches. 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 bi-weekly reports to the Board or designated agent in a format approved by the Board.

14.10.4 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 by-law 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.

14.11. FINAL REPORTS

14.11.1 Upon completion of the work, the permittee shall submit a report (including certified as-built construction plans) from a Professional Engineer (P.E.) or Professional Land Surveyor (P.L.S.), and a 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.

14.11.2 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.

14.12. ENFORCEMENT

14.12.1 The Board or an authorized agent of the Board shall enforce this by-law, regulations, orders, violation notices, and enforcement orders, and may pursue all non-criminal dispositions for such violations.

14.12.2 The Board or an authorized agent of the Board may issue a written order to enforce the provisions of this by-law or the regulations thereunder, which may include:

14.12.2.1 A requirement to cease and desist from the land-disturbing activity until there is compliance with the bylaw and provisions of the land-disturbance permit.

14.12.2.2 Maintenance, installation or performance of additional erosion and sediment control measures.

14.12.2.3 Monitoring, analyses, and reporting.

14.12.2.4 Remediation of erosion and sedimentation resulting directly or indirectly from the land-disturbing activity.

14.12.3 If the enforcing person determines that abatement or remediation of erosion and sedimentation 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 of Groveland may, at its option, undertake such work, and the property owner shall reimburse the Town of Groveland's expenses.

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

14.12.5 Any violation of this by-law, any regulation promulgated hereunder, or any Stormwater Management and Land Disturbance Permit, will be punishable by non-criminal disposition under G.L. c. 40, Section 21D. The Town of Groveland, in which case, the Planning Board or authorized agent shall be the enforcing person. The penalty for the 1st violation shall be $250. The penalty for the 2nd violation shall be $300. The penalty for the 3rd and subsequent violations shall be $300. Each day or part thereof that such violation occurs or continues shall constitute a separate offense.

13.13. SEVERABILITY

14.13.1 If any provision, paragraph, sentence, or clause of this by-law shall be held invalid for any reason, all other provisions shall continue in full force and effect.

14.14 GENERAL

14.14.1 Any application not accompanied by the appropriate fee shall be deemed incomplete. Payment must be made to the Town of Groveland in cash, money order, bank or certified check payable to the Town of Groveland.

14.14.2 An Applicant's failure to pay any additional review or inspection fee within five business days of receipt of the notice that further fees are required shall be grounds for disapproval.

14.14.3 The Applicant or the Applicant's representative will publish the public notice and send abutter notifications. Abutter notification shall be by certified mail-return receipt requested. The applicant shall provide the Planning Board with copies of the public notices and the return receipt cards.

14.14.4 Professional review fees include engineering review, legal review, and clerical fees associated with the public hearing and permit processing. A fee estimate may be provided by the Planning Board's consulting engineer.

Adopted at Annual Town Meeting held April 30, 2007

END OF BYLAW

Appendix D

Stormwater System Mapping

Mapping Status

Requirement Summary	Status
Phase I – Must be Complete by July 1, 2020	
1. Outfalls and receiving waters	Complete
2. Open channel conveyances	Not started
3. Interconnections with other MS4s	Not started
4. Municipally owned structural BMPs	Not started
5. Waterbody names and impairments	Complete
6. Initial catchment delineations by topography	Complete (updates ongoing)
Phase II – Must be Complete by July 1, 2028	
1. Outfalls with spatial accuracy +/-30 feet	Complete
2. Pipe connectivity	Not started
3. Manholes	In Progress
4. Catch basins	In Progress
5. Refined catchment delineations	Not started
6. Municipal sanitary system	Not started
7. Municipal combined sewer system	Not Applicable

Stormwater Infrastructure Map
Groveland, MA

Legend

- Outfall
- Catch Basin
- Manhole
- Outlet
- Sewer Pipe
- Sewer Force Main
- Roads
- Lake, Pond, Reservoir
- Wetland, Marsh, Swamp
- Stream, Brook
- Non-Urban Area

N W E S

0 0.25 0.5 1
Miles

Comprehensive Environmental Incorporated

Data Sources: CEI, MassGIS, Town of Groveland

06.25.19

HAVERHILL
WEST NEWBURY
NEWBURY
GEORGETOWN
NORTH ANDOVER

Kenoza Lake
Millvale Reservoir
East Meadow River
Merrimack River
Beaver Brook
Little Crane Pond
Ash Swamp
Crane Pond
Johnson Creek
Lower Pond
Johnsons Pond
Pentucket Pond Outlet Reservoir
Penn Brook
Muddy Brook
Fish Brook
Stiles Pond

Appendix E

Inventory of Town-Owned Property

Appendix F

Street Sweeping Optimization Plan

N
W
E
S

HAVERHILL

WEST NEWBURY

NEWBURY

GEORGETOWN

BOXFORD

Merrimack River

Johnson Creek

Johnsons Pond

Crane Pond

NICHOLS WAY
CRANTON AVENUE
MAIN STREET
BALCH AVENUE
WOOD STREET
SEVEN STAR ROAD
CENTER STREET
J B LITTLE ROAD
UNION STREET
CANNON HILL AVENUE
ROLLINS STREET
GARDNER STREET
PINEWOOD LANE
SCHOOL STREET
KING STREET
BARE HILL ROAD
BYFIELD ROAD
WASHINGTON STREET
POND STREET
BENJAMIN STREET
SALEM STREET
CENTER STREET
UPTACK ROAD
COLEMAN ROAD
113
97

Street Sweeping Once per Year within a MS4 Catchment and Urbanized Area
Street sections within a MS4 catchment and UA = 17 lane miles

Legend

- MS4 Outfalls
- Urbanized Area (2000 and 2010

303d Water Bodies

- Impaired Lake, Pond - Category 5
- Impaired River, Stream - Category 5

Hydrography

- Lake, Pond, River
- Wetland
- Stream, Brook

Outfall Catchments

- Discharges from MS4 Catchment and within UA
- Catchment Outside of UA
- Street Sweeping Once per Year within MS4 Catchment and UA (required)

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

Street Sweeping Map

Sweeping per Phase II Requirements

Holliston, Massachusetts

Comprehensive Environmental Inc.

Appendix G

Catch Basin Optimization Plan

Plan for Optimizing Catch Basin Cleaning

Groveland, MA

June 30, 2019

Prepared For:

Town of Groveland
183 Main St
Groveland, MA 01834

Prepared by:

Comprehensive Environmental Inc.
41 Main Street
Bolton, MA 01740

Table of Contents

Plan for Optimizing Catch Basin Cleaning – Groveland, MA

1 Introduction 1

2 Permit Requirements 1

3 Existing Catch Basin Management Program 2

4 Plans to Refine Catch Basin Cleaning Optimization 2

4.1 Optimization Methodology 2

4.2 Catch Basin Cleaning Standard Operation Procedure (SOP) 2

4.3 Catch Basin Cleanings Storage and Disposal 2

List of Appendices

Appendix A. Map of Drainage Infrastructure
Appendix B. Standard Operating Procedures for Catch Basin Cleaning and Inspection

1 Introduction

This Catch Basin Cleaning Optimization Plan has been prepared by Groveland, MA to address the catch basin inspection, cleaning and maintenance requirements of the United States Environmental Protection Agency's (USEPA'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 MS4 Permit."

The 2016 MS4 Permit requires the permittee to document its plan for optimizing catch basin cleaning, inspections, or its schedule for gathering information to develop the optimization plan. This plan documents the Town's existing catch basin cleaning program and its plans for gathering additional information to refine its program to meet the requirements of the permit.

2 Permit Requirements

This Catch Basin Cleaning Optimization Plan addresses Section 2.3.7.1.a.iii.2 of the 2016 MS4 Permit (Infrastructure Operations and Maintenance), which includes the following requirements:

- **Establish a schedule** with the goal that the frequency of routine cleaning will ensure that no catch basin at any time will be more than 50 percent full[1];

- **Prioritize** inspection and maintenance for catch basins:
  - located near construction activities[2]. These should be cleaned more frequently if inspection and maintenance activities indicate excessive sediment or debris loadings;
  - discharging to impaired waters where the pollutant of concern is E. coli or enterococcus; and
  - with sumps more than 50% full during consecutive inspections.

- **Establish proper documentation** of catch basin inspections to include:
  - the location and total number of catch basins;
  - the location and total number of catch basins cleaned or inspected; and
  - the total volume or mass of material removed from catch basins.

- **Develop an optimization plan** for catch basin cleaning, inspection plans, or a schedule for gathering information to develop the optimization plan in the first annual report and in the SWMP.

[1] A catch basin sump is more than 50 percent full if the contents within the sump exceed one half the distance between the bottom interior of the catch basin to the invert of the deepest outlet of the catch basin.
[2] Roadway construction; residential, commercial, or industrial development or redevelopment.

3 Existing Catch Basin Management Program

The Town has approximately 975 catch basins to clean and maintain. Refer to the map in **Appendix A**. The Town currently cleans approximately one-quarter to one-third of their catch basins each year on a rotating schedule using in-house staff and equipment, however does not document sediment accumulation for each basin. Groveland has prioritized catch basins that are known to have high sediment accumulation and cleans these at least once per year. These basins are typically on high traveled streets or at the low point of a hill. Catch basin cleanings are currently stockpiled at the Highway Garage.

4 Plans to Refine Catch Basin Cleaning Optimization

4.1 Optimization Methodology

Groveland will continue to implement its existing catch basin cleaning schedule of cleaning approximately 250 basins per year, including more frequent cleaning of catch basins with known higher sediment loads. During this time, it will collect data on the sump depth and sediment depth in each catch basin. A spreadsheet will be used to track sediment depth at each location. The catch basin inspection form included with the standard operating procedure (SOP) in **Appendix B** will be used to document data collected during cleaning.

Groveland anticipates taking approximately four years to collect and evaluate required data to determine the status of the catch basins and whether the sump was more than half full. The catch basins that are more than 50% full will be evaluated for potential factors that may have contributed to it being 50% full (i.e., smaller sump, nearby construction, surrounding land uses, location in town). The evaluation will be used to identify catch basins that require more frequent inspection and/or cleaning and to develop an optimization plan that prioritizes these structures accordingly.

4.2 Catch Basin Cleaning Standard Operation Procedure (SOP)

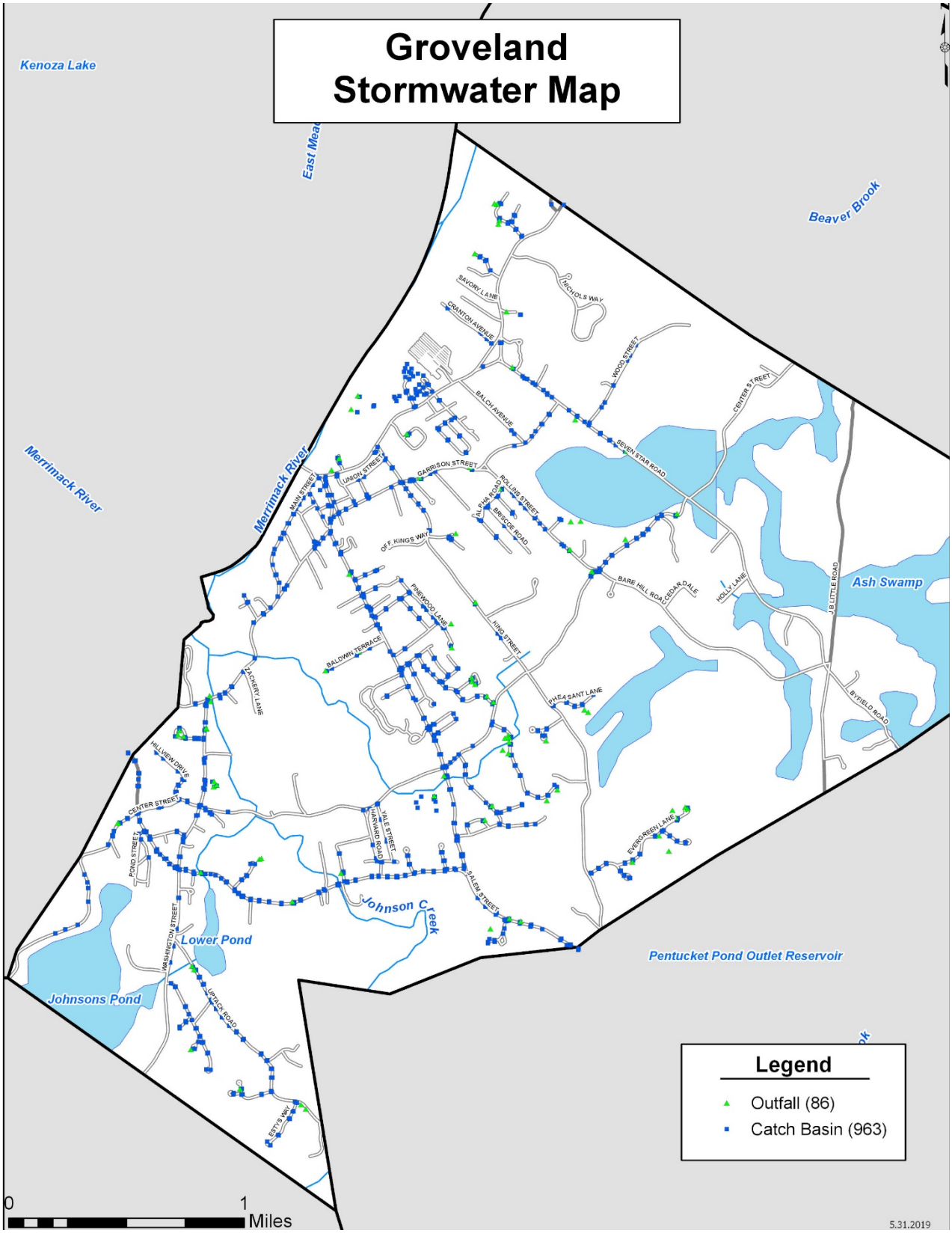
All catch basins will be inspected and cleaned following the standard operating procedures (SOP) provided in **Appendix B**.

4.3 Catch Basin Cleanings Storage and Disposal

Catch basin cleanings are currently stockpiled at the Highway Garage. Groveland will explore possible beneficial uses for its collected catch basin cleanings.

Appendix A

Map of Drainage Infrastructure


Groveland
Stormwater Map
Kenoza Lake
Merrimack River
Beaver Brook
Ash Swamp
Johnson Creek
Lower Pond
Johnsons Pond
Pentucket Pond Outlet Reservoir
Legend
Outfall (86)
Catch Basin (963)
0
1
Miles
5.31.2019

Appendix B

Standard Operating Procedures for Catch Basin Cleaning and Inspection

SOP. MI-2 Catch Basin Cleaning and Inspection

Permit Requirements

As required by the 2016 MS4 Permit, catch basin inspection and cleaning requirements include the following:

- **Inspect and clean catch basins** to ensure that no catch basin is not more than 50 percent full;
- **Prioritize inspection and maintenance** for catch basins:
  - located near construction activities;
  - discharging to impaired waters; and
  - with sumps more than 50% full during consecutive inspections.
- **Establish proper documentation** of catch basin inspections; and
- **Develop an optimization plan** for catch basin cleaning and inspection**.**

Before Cleaning and/or Inspection

- **Notify residents and business** of catch basin cleaning schedule to restrict parking that could obstruct catch basin cleaning operations.
- **Gather** all required forms and maps.
  - Catch Basin Inspection Form; and
  - Maps of area to be cleaned/inspected

Cleaning and Inspection during Cleaning

1. Clean sediment and trash off of grate.
2. Remove grate.
3. Fill out **Catch Basin Inspection Form** with basin-specific information:
   - **Before cleaning**:
     - Do a visual inspection of outside of grate.
     - Do a visual inspection of the inside of the catch basin to determine cleaning needs and structural issues.
     - Measure depth from rim of catch basin to top of sediment.
     - Measure depth from rim of catch basin to the top of the outlet pipe.
     - Take photo of catch basin.
   - **Clean catch basin**:
     - For manual removal, place removed material in a location protected from potential runoff and place cleanings in a vehicle for transport to designated disposal area.
     - OR use a high-powered vac truck to remove sediment.
   - **After cleaning**:

- Measure depth from rim to bottom of catch basin.
- Measure depth of sump (outlet pipe to bottom of catch basin).
- Note if the catch basin is more than 50% full with sediment.
- Note if the catch basin requires maintenance or it there are pollutants present.
- Take photo of catch basin.

4. **Storage:** Bring cleanings to designated location for storage and disposal.
5. If any illicit discharges are observed or suspected, notify supervisor.

Interim Inspection between Cleaning Cycles

1. Clean sediment and trash off grate.
2. Remove grate.
3. Fill out **Catch Basin Inspection Form** with basin-specific information:
    - Do a visual inspection of outside of grate.
    - Do a visual inspection of the inside of the catch basin to determine cleaning needs and structural issues.
    - Measure depth from rim of catch basin to top of sediment.
    - Using sump depth collected during previous cleaning, note if the catch basin is more than 50% full with sediment.
    - Note if the catch basin requires maintenance or if there are pollutants present.
4. If any illicit discharges are observed or suspected, notify supervisor.

Catch Basin Inspection Form

Inspection Information			
Catch Basin ID			
Street Location		GPS Location	
Inspector's Name			
Date of Inspection		Time of Inspection	
Weather (circle)	Dry Light Rain Heavy Rain Snow		

Catch Basin Information		
Location	**Surface Type**	**Grate**
☐ Road/Curb ☐ Alley ☐ Ditch ☐ Parking Lot ☐ Driveway ☐ Sidewalk Other:_____	☐ Asphalt ☐ Gravel ☐ Concrete ☐ Grass/Dirt Other:_____	____inches x ____ inches Material: _____ Shape:

Catch Basin Condition	
CB Damage: No Yes	Comment:

	Materials (circle)					**Condition (circle)**			
Grate	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent
Frame	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent
Chimney	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent
Walls	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent
Trap/Hood	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent
Sump	Cast Iron	Brick	Concrete	Aluminum	Fiberglass	Poor	Fair	Good	Excellent

Sediment Depth and IDDE (inches)	
A. Depth from Rim to Top of Sediment: _____ B. Depth from Rim to Bottom of Basin (after vac): _____ C. Sump Depth: _____ D. Depth of Sediment (B-A): _____ E. More than 50% Full of Sediment? (D/C): _____ **CB Cleaned?** No Yes **Suspected illicit discharge?** No Yes	Check those Present: __Sanitary Waste/Smell __Excessive Sediment __Oil Sheen __Floatables/Trash __Pet Waste: Other:_____ Potential Source: _____

Appendix H

SWPPP Facilities

Appendix I

List of Stormwater BMPs

Appendix J

Annual Reports